DOCUMENT RESUME

ED 266 246 CE 043 456

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TITLE Vocational Assessment Handbook.
INSTITUTION Colorado State Board for Community Colleges and Occupational Education, Denver.; University of Northern Colorado, Greeley.
PUB DATE 85
NOTE 183p.; The greater part of the manual is printed on colored paper.
AVAILABLE FROM Vocational Teacher Education, University of Northern Colorado, McKee 425, Greeley, CO 80631 ($10.00).
PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC08 Plus Postage.
DESCRIPTORS *Disabilities; *Disadvantaged; Educational Diagnosis; Evaluation Criteria; Evaluation Methods; Individualized Education Programs; Occupational Tests; Performance Tests; Program Development; Questionnaires; Records (Forms); Secondary Education; *Statewide Planning; *Student Evaluation; Testing Programs; Tests; *Vocational Education; *Vocational Evaluation
IDENTIFIERS *Colorado; Special Needs Students

ABSTRACT

This handbook is intended to assist educational and other institutions to meet the requirements of the Carl D. Perkins Vocational Education Act of 1984 by developing and/or enhancing vocational assessment services for special populations throughout Colorado. The first section outlines the purposes, strategies, and outcomes of the vocational assessment process; details procedures for planning and developing an assessment center; and provides sample forms for the assessment process. The next four sections address the following aspects of the vocational assessment process: content and scope, screening assessment, specific skill assessment, and procedures for reporting vocational assessment information. Each of these sections includes guidelines and forms for implementing the specific aspect of assessment under discussion. Concluding the guide is a section explaining available resources in the following areas: individualized education plans (IEPs), individualized written vocational plans (IWVP), Colorado resources, reading assessment, use of the Dictionary of Occupational Titles (DOT), labor market information resources, and experiential tests. (MN)

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VOCATIONAL ASSESSMENT HANDBOOK

Written and developed by Jean P. Lehmann
with the assistance of Susan J. McAlonan

FALL, 1985

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PREFACE

Under the Carl Perkins Vocational Education Act of 1984, vocational educators and others have exciting opportunities for improving the quality of services offered handicapped and disadvantaged individuals. Among these opportunities, the Act specifically requires that those institutions receiving federal entitlement funds must provide vocational assessment to these populations.

In essence the Act requires what we, as educators, already understand what is needed by special students to successfully select, enter and complete vocational programs: information about skills, abilities, interests, and learning needs.

Over the past three years Colorado's educational institutions, community based organizations, service delivery areas, and other employment related systems have increased their capacity to provide vocational assessment services to special populations. However, access to such services has not yet been achieved in all parts of the state.

This Handbook has been developed to assist educational institutions and others develop and/or enhance vocational assessment services for special populations statewide. It is our hope that this Handbook will provide a basis for you to develop high quality vocational assessment services that meet the needs of special populations in your community.

Carole M. Johnson
Assistant Director
Division of Occupational Education

Vocational
Assessment

INTRODUCTION

The Carl D. Perkins Vocational Education Act, P.L. 98-524 has mandated new services including assessment for special needs populations enrolled in vocational education programs. All programs receiving vocational education monies must sign an assurance statement when applying for vocational education funds for the disadvantaged and handicapped. This is to insure that the interests, abilities and special needs of each handicapped and disadvantaged student will be assessed with respect to successfully completing a vocational education program.

This manual was designed to help personnel in any type of a vocational program or agency meet the requirements of the new Vocational Education Act. Vocational Assessment is presented in this manual in terms of its definition and purpose. The scope of the assessment, that is important factors about an individual and job or curriculum which need to be considered prior to vocational planning, is also addressed. And finally, the different strategies by which vocational assessment can be provided and the assessment tools and techniques which are appropriate for special needs populations are discussed. The purpose of this manual is to enable programs and agency's to determine what assessment strategy and specific assessment techniques will best suit their needs. Many sample forms are contained at the end of each section of the manual. These forms are printed on white paper so that they can be easily copied.

DEFINITIONS

Vocational Assessment

There has been much discussion in the literature about the distinction between the terms vocational assessment and vocational evaluation. There seems to be no consensus of opinion about the definitions. We will therefore follow the lead of Cobb and Larkin (1985) and use the term "assessment" when referring to making program decisions based upon an analysis of information gathered about an individual. Vocational assessment is the process of gathering information regarding a person's abilities, aptitudes and interests related to vocational training and employment potential. The evaluation/assessment is an ongoing process that should begin in the elementary grades and involve many individuals including the student, parents, classroom teachers, counselors and administrators (Maxam, 1985). Vocational assessment should be an on-going process. Options change as technology emerges and opportunities for training and employment adjust to meet the changes in local labor market demands. Individuals, as they mature, gain work experience, learn more about their vocational options, and also change in their personal interests, values and even specific attitudes. Therefore, what is a valid vocational recommendation for today, may not be as valid one or two or five years from now. Hence, there is the need for an ongoing assessment. Assessment is as important to the graduating high school student, as it is for an adult reentering the job market. The term "evaluation" will be used when discussing the determination of a program's merit.

Evaluator

The term evaluator will be used to describe the person who performs the vocational assessment. This person might be a vocational education teacher, a counselor, a special education teacher or any other person seeking vocational information about the person with whom they are working. Some evaluators will have had little experience in the area of vocational assessment while others have participated in university programs focusing on assessment. The term is loosely used in this manual to refer to the range of expertise.

Handicapped/Disabled

> "The term 'handicapped': when applied to individuals, means individuals who are mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, or other health impaired persons or persons with specific learning disabilities, who by reason thereof require special education and related services, and who, because of their handicapping condition, cannot succeed in the regular vocational education program without special education assistance."

Disadvantaged

"The term 'disadvantaged' means individuals (other than handicapped individuals) who have economics or academic disadvantages and who require special services and assistance in order to enable them to succeed in vocational education programs. Such terms include individuals who are members of economically disadvantaged families, migrants, individuals who have limited English proficiency and individuals who are dropouts from, or who are identified as potential dropouts from secondary schools."

Special Needs

This term refers to both handicapped and disadvantaged individuals.

PURPOSES

Vocational Assessment should be individualized and designed to answer specific questions needed to assist an individual in planning his/her vocational training. Vocational assessment is a collaborative process. It is entered into and conducted with the individual not to the individual. The goal is to help the individual make better vocational decisions for themselves.

It is important to understand:

VOCATIONAL ASSESSMENT CAN PROVIDE INFORMATION ABOUT CURRENT PERFORMANCE AND SKILLS BUT IT CANNOT MEASURE THE INDIVIDUAL'S POTENTIAL FOR ACHIEVEMENT GIVEN TRAINING AND EXPERIENCE OPPORTUNITIES.

The assessment process is beneficial to all parties involved because it assists in the process of determining:

* Present functioning level
* Appropriate vocational program area placement
* Appropriate job placement
* Beneficial or required support services
* A starting point for further career exploration
* Motivational tools to further the quest for knowledge
* Vocational strengths and skills

It is important to understand:

VOCATIONAL ASSESSMENT IS NOT TO BE USED TO KEEP PEOPLE OUT OF PROGRAMS AND JOBS, BUT RATHER TO HELP FORMULATE DECISIONS REGARDING NEEDED RESOURCES, AND GIVE SUPPORT AND TRAINING TO PEOPLE IN ORDER THAT THEY MAY SUCCEED IN PROGRAMS AND EMPLOYMENT.

Therefore, vocational assessment is only useful to the degree to which it enables us to make planning and instructional decisions. Some planning forms are located in Section VI of this manual. The end result must be the determination of compatibility between the individual and a job or vocational education program.

STRATEGIES

There are two strategies for implementing vocational assessment. They are:

* screening
* specific vocational assessment

* Screening Assessment is designed to provide a summary of preexisting information about the person's current level of functioning. This means the evaluator collects and analyzes vocationally relevant information about the individual.

* Specific Skill Assessment involves the use of additional assessment tools and techniques in order to assist the individual with vocational planning. In other words more information about the persons vocational strengths and weaknesses is gathered utilizing work samples, experiential assessments or various paper and pencil tests.

The choice to use either of the strategies is dependent on such factors as:

* the purpose of the assessment
* individual needs and interests
* resources
* time
* expertise of the evaluator
* program needs
* availability of jobs

Table I contrasts the strategies for assessment according to the population assessed, the methods, timing and location of the assessment, and the personnel responsible for the assessment. It is obvious from this Table that the strategies build upon one another. For instance, the specific skills assessment includes the components from the screening assessments. The purpose of the strategies is to acquire enough relevant information about the person's ability and behavior to make vocational planning, placement and programming decisions.

Table 1. Comparison of Vocational Assessment Strategies

STRATEGY	I Screening	II Specific Skill
Population	All handicapped* & disadvantaged individuals	All handicapped* & disadvantaged individuals for whom more information is needed following Screening Assessment
Method	-Referral Information -Initial Interview -Gather existing data including information from significant others Cumulative records -Record Observations	Complete Screening Assessment Administer: Vocational Interest inventories Academic tests Work samples Experiential Assessment Learning styles questionnaires
When	Gathered prior to potential vocational programming Ongoing	Administered prior to vocational programming Ongoing
Responsible Personnel	Educational diagnostician Special Education teacher Counselor Vocational Education teacher	Counselor Teachers, if trained

Adapted from Vocational Assessment of Students with Special Needs: An Implementation Manual, Occupational Curriculum Lab, East Texas State University.

* Handicapped = Disabled

Sections III, IV, V of the Manual provide more comprehensive information on the tools and techniques which may be utilized in Strategies I & II.

OUTCOMES

It is important to remember:

THE VOCATIONAL ASSESSMENT PURPOSE: TO DEVELOP A LONG RANGE VOCATIONAL PLAN FOR SPECIAL NEEDS INDIVIDUALS.

This requires integrating all of the information gathered in the vocational assessment into an Individualized Written Vocational Plan (IWVP). For handicapped students, the IWVP should correspond to the vocational component of the Individualized Education Plan (IEP). The IEP is used for handicapped secondary students. The IWVP is designed for both handicapped and disadvantaged while the Employability Development Plan (EDP) is designed for disadvantaged individuals participating in employment and training programs.

The results from the vocational assessment can be utilized in developing long and short term vocational goals and in vocational planning on the IWVP. The IWVP should be reviewed at least annually. Section VI contain(s) a sample of an IWVP format that was developed jointly by the Colorado Department of Education, the State Board for Community Colleges and Occupational Education and the Division of Rehabilitation for use in Colorado. A sample IEP and EDP are also provided in Section VI. These forms represent the outcome of vocational assessment. The information you obtain must be relevant to planning. These forms are completed at the planning conference in conjunction with the individual who was assessed and any other person who might be responsible for providing services to that individual. **Information about the planning conference is contained in Section V of this handbook.** The evaluator, must identify information which would be pertinent for the completion of any one of these forms.

PLANNING AND DEVELOPING AN ASSESSMENT CENTER

While you are reading the rest of the manual it is important you compare your needs and resources with the types of strategies, tools and techniques being discussed. Forms to help you analyze your needs and begin planning for the development of your own assessment center are included in this section. Some planning considerations for developing a vocational assessment center or laboratory include:

* population to be assessed (numbers and population)
* funding
* availalbe space
* assessment tools and techniques
* time constraints
* staff
* resources

Population

Decide what population you will most likely be serving. Will you be working with primarily disadvantaged youth entering vocational education programs in the community college or displaced homemakers entering the job market? Each population has unique characteristics which must be addressed individually by the vocational evaluator. Consider your referral sources when determining what population you will be serving. Who will be referred to receive an assessment? Another important issue is how many people you will be required to assess. You must estimate the numbers of individuals you plan to assess at one time and during the year before you address other considerations.

Funding

How much money do you have available for providing vocational assessments? The amount of funds you have for establishing a vocational assessment center and maintaining it has a major impact on its development. Remember, that you will need fund for both the start up of your assessment center and also money for on-going expenses. Some potential sources of funding include: special education, vocational rehabilitation, adult basic education programs, the Job Training and Partnership Act service delivery areas and several entitlements from the new Carl D. Perkins Act (Vocational Education Act of 1984).

Assessment Tools and Techniques

Now that you have identified the population you will be assessing and the amount of funds you have for purchasing the assessment tools and techiques, you can begin receiving the various techniques which ar available and applicable. Analyze each tool and technique in terms of its benefits for answering the vocational planning questions you have about the population you will be assessing. Don't choose a technique unless it is vocationally relevant and affordable. The assessment tools and techniques mut provide you with the information you will need to make vocational plans. Analyzing various tools and techniques is an ongoing process which enables you to keep your assessment center up-to-date and provide better services to those you are assessing.

Space

Do you have a location which is both quiet and spacious enough for you to work in. The amount of people you plan to be assessing and the types of assessment you will be conducting will effect the amount of space you need.

Time Constraints

You must balance the time you will have available to perform the assessment with the amount of time you need to gather the vocationally-relevant information needed. Being realistic is vital. What are the expectations or constraints of your referring sources? How do you plan to schedule the vocational assessment? Some of the tools and techniques will take more time to administer than others. For example, it will take more time to provide the individual with an experiential assessment (on-the-job-tryout) than it will to administer an interest inventory. You may need time to administer both kinds of assessment.

Staff

Your personnel requirements will depend, in part, on the assessment strategies you select. Obviously, the more qualified your staff is in the area of assessment, the more comprehensive your vocational assessments will be. A trained evaluator will be better able to interpret the information they compile and report this information so that it is useful for vocational planning. Potential personnel include vocational guidance counselors and special education personnel.

Resource

Keep in mind all the resources you may have available to you. Potential sites of assessments include local businesses, and vocational education classes. Are there other nearby programs which are providing assessments from whom you could purchase services, share resources or coordiate efforts? Be aware of other resources which you may require. Will the individuals being assessed need transportation to your school or agency?

The nature of the assessment services you provide will depend upon your careful consideration of these factors. **Planning forms are located at the end of this section.** You should review and complete them as you study this manual. This will help organize you systematically organize a vocational assessment center. AT each step of the way, consider your needs versus available resources. You may need to start with a screening vocational assessment strategy and gradually build-up into a more comprehensive evaluation center containing many different types of vocational assessment. Potential resources for planning your assessment center are listed in Section VI of this manual.

SAMPLE FORMS
SECTION I - VOCATIONAL ASSESSMENT

Form I - Assessment Center Planning Guide

Form II - Needs/Resources Summary

Form III - Assessment Planning Summary

ASSESSMENT CENTER PLANNING GUIDE

TASK	TIME LINE	COST	STAFF	COMMENTS
1. Select Assessment Planning Team				
2. Determine Assessment Needs				
3. Determine Financial Resources				
4. Determine Available Space				
5. Research Assessment Tools & Techniques				
6. Select Assessment Techniques				
7. Develop Informal Assessment staff				
8. Provide Training to Assessment staff				
9. Develop a Referral Process				
10. Design Assessment Strategy				
11. Conduct Vocational Assessment				
12. Evaluate Assessment Strategy and Redesign as Needed				

SAMPLE FORM I

NEEDS/RESOURCES SUMMARY

SAMPLE FORM II

SCHOOL/AGENCY NAME _____

STAFF IDENTIFIED TO ASSIST IN ASSESSMENT PROCESS

Name: _____ Title: _____
Name: _____ Title: _____
Name: _____ Title: _____
Name: _____ Title: _____

FUNDS AVAILABLE FOR INITIAL START-UP COSTS

AMOUNT _____ SOURCE _____
AMOUNT _____ SOURCE _____
AMOUNT _____ SOURCE _____

FUNDS AVALIABLE FOR ON-GOING EXPENSES

AMOUNT _____ SOURCE _____
AMOUNT _____ SOURCE _____
AMOUNT _____ SOURCE _____

POPULATION IDENTIFIED FOR ASSESSMENT

_____
_____
_____

	POPULATION	ASSESSMENT TOOLS & TECHNIQUES	COST
NTEREST			
NERAL UCATION VELOPMENT			
CIAL & OTIONAL LERANCE			
DEPENDENCE			
CATIONAL ADINESS & BITS			
CATIONAL LLS LITIES			

ASSESSMENT PLANNI SUMMARY

GOAL STATEMENT	STRATEGIES	RESOURCES	TIME LINE	COST	PROVIDER

SAMPLE FORM III

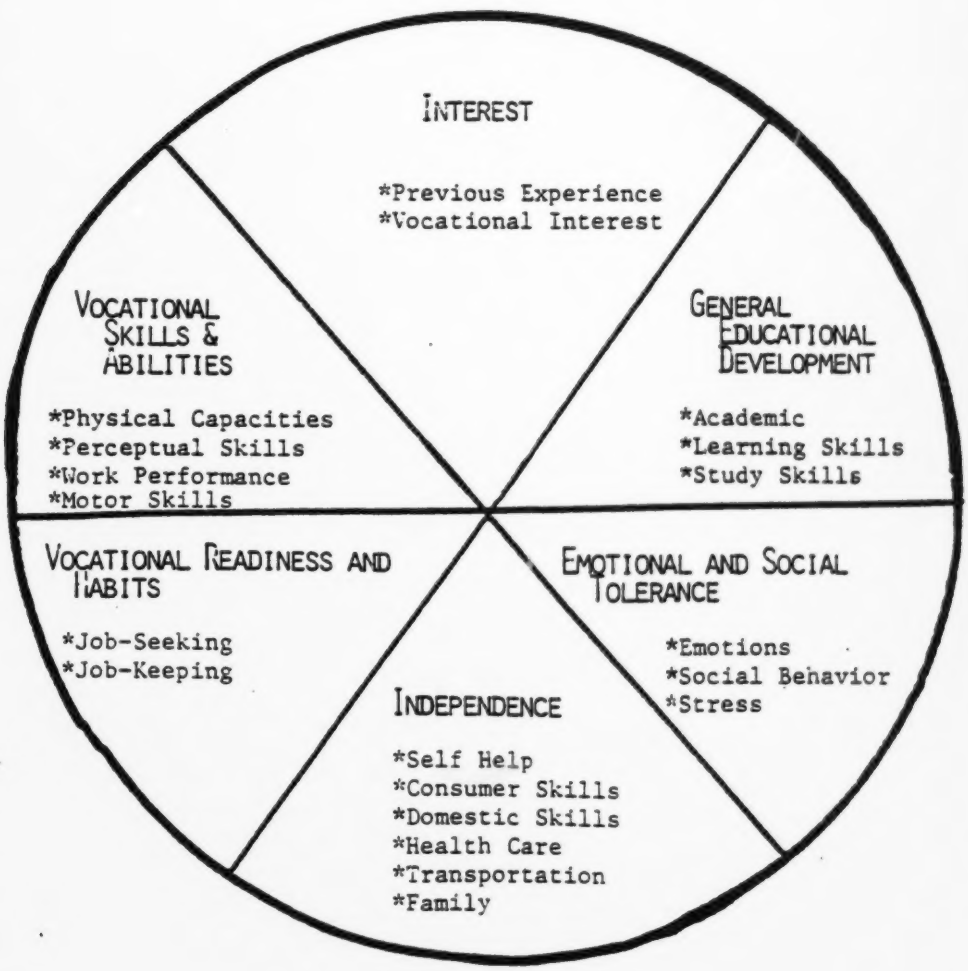
developed by
Susan McAlonan

Content
And Scope

INTRODUCTION

What you assess about an individual depends upon what you need to know about that person in order to make relevant vocational decisions. During the assessment it is important to assess both the individual and the characteristics of a given program or work environment.

There are six categories that you may consider when assessing an individual. They are shown in the circle below.



Interest

Vocational interest should be assessed if the individual is unable to identify realistic vocational career goals and/or does not have any awareness about jobs. Goals and objectives are difficult to formulate when individuals lack information about themselves and/or the world of work. Interests can be identified by hobbies, leisure time activities, most favorite and least favorite activities and previous experiences. Answers to the following questions help determine vocational interest:

* Previous experience. Has the individual participated in career awareness, orientation, exploration activities and/or vocational evaluations? What work or daily living experiences has the individual had?

* Interest in a given occupational area. Has the individual participated in career guidance and counseling experiences, acquired occupational information, observed role models, expressed interest in an occupation or group of related occupations or a particular working environment? Information on interest inventories is located in Section V.

* Parental attitudes about the various options. How do the parents perceive the various options, and which ones do they favor? (Johnson, 1980)

General Education Development

Most jobs and vocational education courses require some literacy, math and reasoning skills. Therefore it is important to determine at what level the person being assessed can read, write, solve problems, and follow directions. Vocationally-relevant content to be assessed includes:

* Current level of academic performance. What is the individual's current level of performance and how does it compare with performance minimally required for success in the occupation for which training is desired?

* Learning style and mode. What particular learning approaches does the person use most effectively? Does he or she learn most efficiently through visual, auditory, tactile modes, or a combination? A learning styles inventory is included in Section IV.

* Reasoning. Given a problem, is the individual able to solve it in a systematic manner.

* Study skills. Is the person able to organize his/her work, prepare for tests and take notes in order to effectively perform in the classroom?

Social and Emotional Tolerances

To what extent can the individual handle stress or exertion, extended periods of concentration, environmental stimulation, interactive environments, activity oriented situations, and/or distractions within the environment that may be encountered in the occupation? (Johnson, 1980)

* Current level of social performance. How efficiently or effectively does the person manage his or her behavior in various work situations as compared to the self management skills required for the job? How appropriately does the person interact with peers and authority figures in work situations as compared to the interaction skills required for success in the occupation? (Johnson, 1980)

* Self awareness. Does the individual exhibit positive self attitudes or does she or he approach new experiences with an expectation of failure?

Independence

The areas of self-help, consumer skills, domestic skills, health care and knowledge of the community should be assessed according to the individual's proficiency in the area and in relationship to their personal needs.

* Self-Help. Does the person have adequate grooming skills? Do they wear clothing which is appropriate for the weather or work. Do they need assistance in caring for their basic needs? (eating, toileting, grooming)

* Consumer Skills. It might be important to determine the person's financial situation. Will they need a scholarship to enter the community college or what starting salary will they need to pay bills? It might also be important to determine what level of budgeting or money handling skills they possess if they are interested in accounting jobs, banking jobs or sales jobs.

* Domestic Skills. Are their difficulties in the individuals living situation which might interfere with their performance at work or in the classroom? How well does the individual manage their household?

* Health Care. Is the person able to perform basic preventative measures such as eat nutritious foods, exercise regularly? Do they care for their personal health and physical needs?

* Transportation. Is the individual able to get to and from work? What modes of transportation can they utilize? What mobility limitations do they have.

* Family. Who is included in the family unit? Are their any cultural factors to consider? Is there family support?

Vocational Readiness and Habits

As the individual nears the time when he/she will be job-hunting, skills in the area of job seeking and retention become important to assess. Questions for which the evaluator is seeking answers include:

* Job-Seeking. Are they knowledgeable about the labor market? Do they know how to apply for jobs? How well does the individual complete an application form? How do they present themselves during the interview?

* Job-Keeping Skills. How does the individual perform on the job? Do they make a lot of errors? Do they have acceptable work habits? Do they comply with company rules? Do they conform to safety practices? Do they get along with their co-workers?

Vocational Skills and Abilities

How the individual performs on the job is critical information. Factors such as the person's physical strengths, perceptual skills and ability to perform the job, are important in order to better understand the individual.

* Physical Capacity. How much weight can the person lift? Do they have the standing or sitting stamina required for the job? Is their visual and hearing acuity adequate?

* Perceptual Skills. Can the individual distinguish between colors, sizes and shapes? Does the individual have adequate depth perception?

* Work Performance. How much work does the person produce in comparison to others? Is the work accurate? What is their attention span?

* Motor Skills. Does the individual have the necessary fine or gross motor skills? Can they work with their hands? Can they use tools and/or equipment?

SITUATIONAL FACTORS

Vocational assessment is a process of asking relevant questions to assist an individual in vocational planning. Vocational assessment is more than assessing the individual. It also includes assessing the job or curriculum in order to determine what skills and/or resources the individual will need to adequately perform. Therefore, the evaluator must analyze important situational factors as well.

These factors should be evaluated in light of the degree to which they can be modified or altered for the individual. Based on concepts described by Reynolds and Birch (1977), they include:

* Employer/Teacher attitudes. What are the attitudes expressed and demonstrated toward the individual?

* Physical location and layout of the job or class. Is the setting accessible or how can it be modified?

* Curriculum flexibility. How will the curriculum be modified to meet the needs of a variety of individuals?

* Instructional materials. Are instructional materials available which are appropriate for people with varying skill levels, or how can existing materials be customized to meet individual needs?

* Environment. How can lighting, sound, and seating arrangements be adapted or modified for a variety of needs?

* Equipment. Is the equipment accessible or how will it be modified for use by handicapped students and workers?

* Instructional methods. What kinds of instructional methods are used? How can the instruction be modified and individualized?

* Peer attitudes. What are the general attitudes expressed and demonstrated by students or co-workers?

To better assess what skills, abilities and physical capacities the individual will need to perform a specific job, the evaluator should analyze the job. For instance, if the individual is interested in the area of cosmetology, the evaluator should visit a beauty shop to determine the job requirements. (A job analysis form is located at the end of this section, providing a format for asking questions and making observations about the job. This will enable you to better determine the training or resources required before the individual enters a job or program. Labor market information resources are located in Section VI.

Instructional materials which the individual might utilize in vocational training or employment should be reviewed in terms of their reading difficulty. The Fog Readability Scale is included at the end of this section to aid you, in determining the reading level of written materials. If the person reads at the 3rd grade level and the information they need is written on a tenth grade level, an obvious discrepancy occurs. Possible solutions include modifications of the material, tape-recording a summary of the information, or providing individual assistance.

SAMPLE FORMS
SECTION II - CONTENT AND SCOPE

Form IV - Job Analysis

Form V - Fog Index

Form VI - Fog Readability Index Worksheet

JOB ANALYSIS FORM

Job Title: _____

Business _____ Address _____

Phone: _____ Number Employed _____

Person Interviewed: _____ Position _____

Interviewer: _____ Date: _____

I. Job Qualifications
- Age:
- Experience required:
- Health requirements:
- Academic skill requirements:
- Communication skill requirements:
- Social skills requirements:
- Dress and Appearance codes:
- Training requirements:

II. Working Conditions
- Wages:
- Hours:
- Job Stability:
- Benefits:
- Supervision (much/little;type)
- Promotion Possibilities:

III. Physical Demands

1. Strength
   - a. Standing _____%
     Walking _____%
     Sitting _____%
   - b. Weight
     Lifting _____
     Carrying _____
     Pushing _____
     Pulling _____
2. Climbing _____
   Balancing _____
3. Stooping _____
   Kneeling _____
   Crouching _____
   Crawling _____
4. Reaching _____
   Handling _____
   Fingering _____
   Feeling _____

5. Talking
   - Ordinary _____
   - Other _____

   Hearing
   - Ordinary Conversation _____
   - Other Sounds _____

6. Seeing
   - Acuity, Near _____
   - Acuity, Far _____
   - Depth Perception _____
   - Accommodation _____
   - Color Vision _____
   - Field of Vision _____

IV. Environmental Conditions

1. Environment
   - Inside _____%
   - Outside _____%

2. Extreme Cold with or without temperature changes _____

3. Extreme Heat with or without temperature changes _____

4. Wet and/or Humid _____

5. Noise
   Estimated maximum number of decibels _____

6. Hazards
   - Mechanical _____
   - Electrical _____
   - Burns _____
   - Explosives _____
   - Radiant Energy _____
   - Other _____

7. Atmospheric Conditions
   - Fumes _____
   - Odors _____
   - Dusts _____
   - Mists _____
   - Gases _____
   - Poor Ventilation _____
   - Other _____

V. Brief Description of Tasks

VI. Recommendations for adaptations:

THE FOG INDEX
(Directions for Use)

The FOG Index (developed by Robert Gunning) has become recognized as an efficient and reasonably accurate measure of reading level of materials for the secondary level. Three simple steps are required in applying the FOG Index to determine the reading level of any instructional material.

a. Take several samples of 100 words each, spacing evenly throughout the material. Count the number of sentences in each sample. (Stop the sentence count with the sentence nearest the 100 word limit.) Divide the total number of words in the sample (100) by the number of sentences. This gives you the average sentence length. Record this figure.

b. Using the same samples, count the number of words that have three or more syllables. Do not count words that are:

- capitalized
- combinations of short; easy words (e.g., bookkeeper)
- verb forms made into three syllables by adding -ed, -es (e.g., created)

Record this number directly under the figure obtained in step "a".

c. The FOG Index is determined by totaling the two factors just recorded (average sentence length and number of three syllable words in the sample), and multiplying the total by .4 (four tenths). This gives you the approximate grade level of the written material. It should be noted, however, that this estimate tends to run somewhat high with more difficult materials.

A worksheet is provided to assist you with computing the FOG Index using the previously stated procedure. It is recommended that a minimum of three 100 word samples be used. Use the average of the reading levels for each sample to determine the final estimate of the reading level of the material.

FOG READIBILITY INDEX WORKSHEET

Title: _____ Type of Material: _____
(e.g., textbook, test, procedure manual)

Sample 1 (100 words from page no. ____)

a. ____ No. of sentences in the sample

b. ____ Average sentence length (100 devided by a. above)

c. ____ No. of 3 syllable words in the sample

d. ____ Sum of (b) and (c) above

x.4 Multiplication factor

Reading level for sample 1

Sample 2 (100 words from page no. ____)

a. ____ No. of sentences in the sample

b. ____ Average sentence length (100 divided by a. above)

c. ____ No. of 3 syllable words in the sample

d. ____ sum of (b) and (c) above

x.4 Multiplication factor

Reading level for Sample 2

Sample 3 (100 words from page no. ____)

a. ____ No. of sentences in the sample

b. ____ Average sentence length (100 divided by a. above)

c. ____ No. of 3 syllable words in the sample

d. ____ Sum of (b) and (c) above

x.4 Multiplication factor

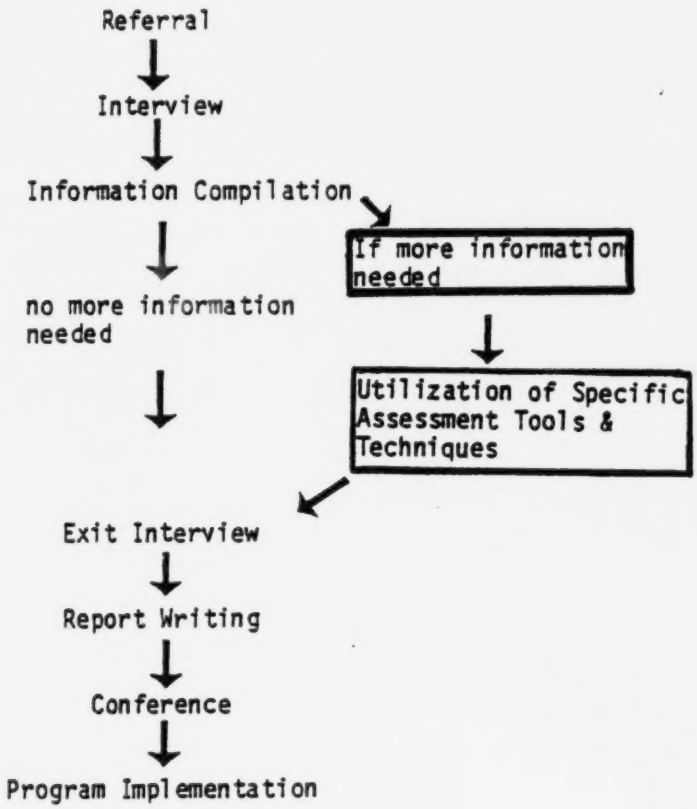
Reading level for Sample 3

_____ AVERAGE READING LEVEL FOR ALL THREE SAMPLES

Screening
Assessment

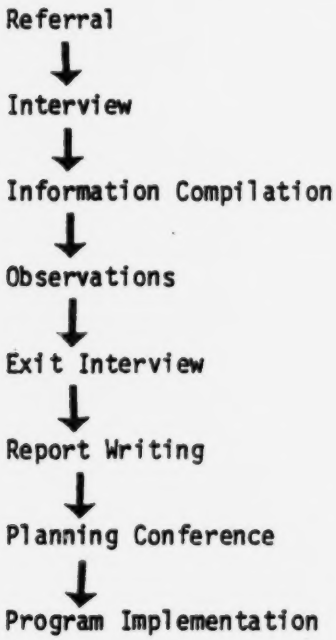
INTRODUCTION

Vocational assessment is an ongoing, systematic process. Of utmost importance is the link between the outcome of assessment with the goals and techniques of instruction and other forms of intervention (Halpern, Lehmann, Irvin, Heiry, 1982). Therefore, the assessment process itself - the steps you perform to gather information about the individual, must be systematic. The process of gathering information builds upon itself. The answers from the questions you asked generate new questions to be answered. A successful model for providing a systematic vocational assessment is:



The following sections of the manual will be devoted to describing what each of these components are and how they can be used.

Strategy I: SCREENING ASSESSMENT



This strategy is designed to provide a summary of preexisting information about an individual's abilities, level of functioning, and other pertinent facts. This type of assessment requires data collection and interpretation rather than additional testing. At the secondary level the information needed for handicapped students may already be available. Usually comprehensive evaluations are conducted to determine the eligibility of a student for special education classes or services and for development of the IEP. At the post-secondary level, the eligible disabled student may have a Vocational Rehabilitation Counselor who has compiled this information. For disadvantaged students, school files may contain much of the screening data (North Dakota, 1984).

REFERRAL

The first component to successful vocational assessment is the referral. A written record that informs the evaluator of the need for a vocational assessment. The referral should include:

* Referral Source
* Purpose of Referral
* Assessment Expectations
* Pertinent Information
* Assessment Release

* Source. The referral for the vocational assessment can be made by anyone including the individual him/herself or by a teacher, school counselor, vocational rehabilitation counselor, JTPA counselor, etc. These referrals can come from inside or outside your institution. This information is important so the evaluator can follow up and gain additional information on the individual when needed.

* Purpose of Referral. It is critical to understand the need for the vocational assessment. The purpose may vary from a very broad question such as, "What is an appropriate vocational program for this person?" to a specific question such as, "Does this person have the finger dexterity for typing?"

* Assessment Expectations. The referring source needs to state the specific outcomes expected from the vocational assessment. In other words, what kind of answer is expected? The referral source should have realistic explanations of the assessment process and not anticipate that you will be able to solve all their problems. Referral expectations provide direction for the assessment by providing recommendations for the individual such as a specific program or determining that the individual has the dexterity to type. This will insure consumer satisfaction.

* Pertinent Information: Any information on the individual being assessed that can be gathered before the actual assessment begins will be extremely helpful to the evaluator. Areas to consider include:

  - Vocational Skills and Abilities
  - Interest
  - General Education History
  - Independence
  - Vocational Readiness and Habits
  - Emotional and Social Tolerance

It is important to have a referral process that meets the needs of your agency. This will help you keep the assessment process organized and efficient. You should include:

1. A system to refer an individual for vocational assessment.
2. Criteria for accepting an individual for vocational assessment.
3. Timelines for completing the assessment.
4. A fee schedule if appropriate.
5. A method of maintaining records on each person you assess.
6. A method to insure all legal requirements are being met.

Be sure and communicate your referral procedures in writing to your referral sources. This will help avoid confusion and unrealistic expectations. Reevaluate and redesign your referral process as needed.

A sample referral form is provided at the end of this section.

*Assessment release Prior to beginning any assessment, it is adviseable to ask the individual being assessed or the parent/guardian as appropriate, to sign a release form. A sample form is provided at the end of this section. If the individual cannot read, read it to him/her. This form will decrease the liklihood of the vocational assessment exacerbating physical or emotional problems of the individual.

INITIAL INTERVIEW

The initial interview allows the evaluator to meet with the individual and explain the assessment process. It is the first step in developing a working relationship between the individual and evaluator. This is the critical point at which rapport is established.

The initial interview is a method for gathering information which cannot be obtained elsewhere. The evaluator has an opportunity to observe the individual and develop a framework for the remainder of the assessment.

The purpose of the initial interview is to:

* Develop Rapport
* Provide an Explanation and Orientation
* Obtain Information
* Develop a Schedule

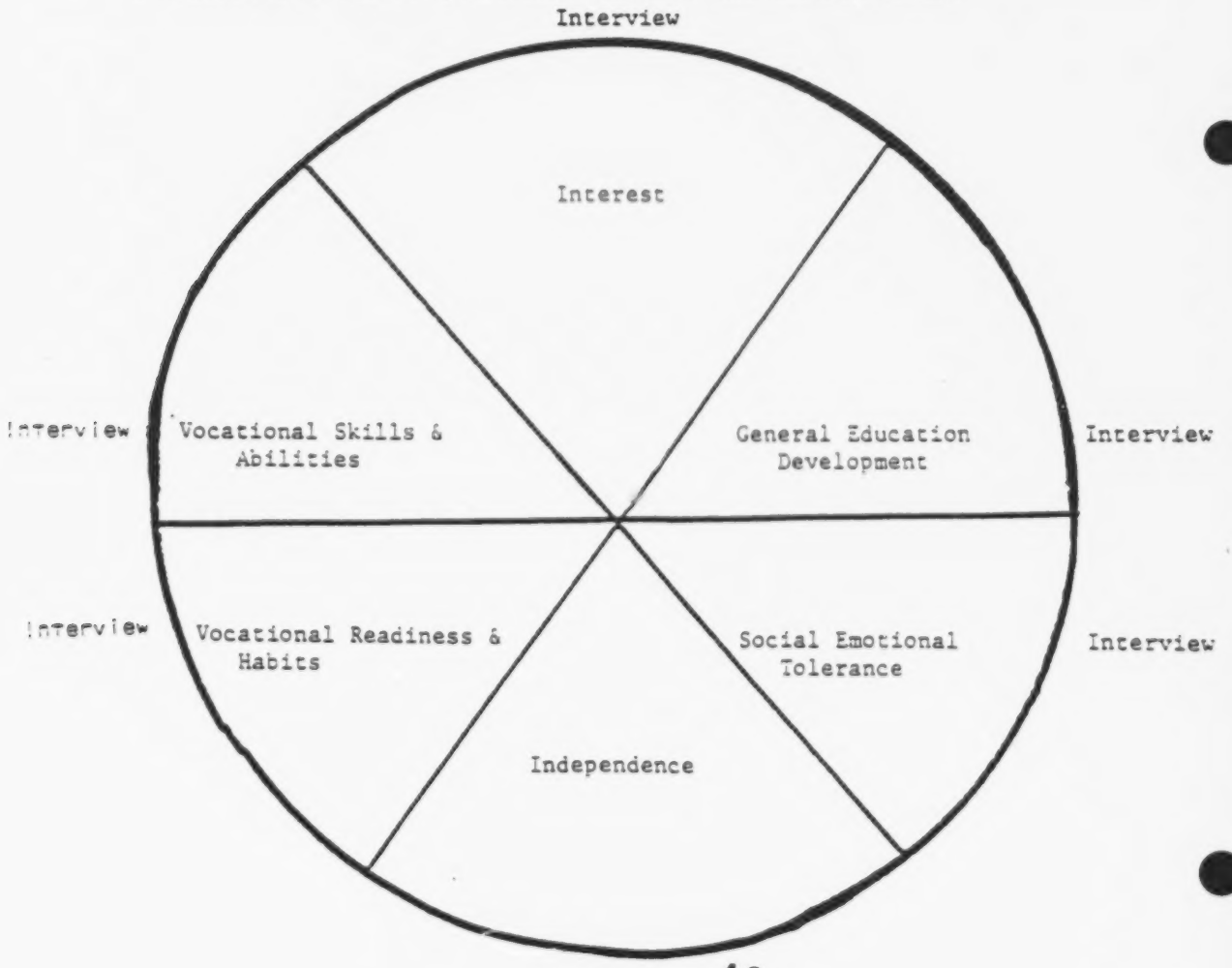
* Develop Rapport. Encouraging the individual to be relaxed will create the conditions in which a better assessment can be performed. Developing rapport begins at the time of the initial interview. Some tips include:

1. Allow enough time for the interview
2. Converse first, write later.
3. Give your attention exclusively to the individual being assessed (not the phone, other people, paperwork, etc.).
4. Create a warm relaxed, human atmosphere.
5. Be honest. Remember you are working with an individual.

* Explanation and Orientation. The individual being assessed should know the process of his or her own individual assessment. We usually function more effectively if we understand what we are going to do and why. The areas you should stress are:

1. Purpose of the assessment.
2. How the assessment process works.
3. The types of assessment techniques that will be used.
4. How the assessment will benefit the individual.
5. A tour of the facility or assessment lab.
6. Allow time for questions from the individual.

* Obtaining Information. Information can be obtained from an individual by simply asking them for it. Interviewing is a major component of any vocational assessment. As you can see in the diagram, interviewing can be utilized to answer questions in all of the content areas:



A sample interview form is located at the end of this section. Questions can be added that are applicable to your program or as they arise during the interview.

* Developing an Assessment Schedule The conclusion of the interview is the time to establish a tentative schedule for conducting the rest of the assessment. There are several points to keep in mind when scheduling:

1. Immediately schedule at least one appointment and discuss a general timeline for the assessment.

2. If the individual has low stamina or physical problems, take this into consideration when scheduling.

3. The individual being assessed will do better if the assessment schedule is broken up over several days. This will depend on the length of the assessment. (All day testing is not recommended) If the assessment must be conducted in full day blocks, vary the types of activities from active to passive.

4. Breaks are needed every few hours to allow the individual to rest.

If the individual being assessed is low functioning or has communication problems it is recommended that the referring source accompany the person to the interview. Otherwise, the interview should be between the evaluator and the individual being assessed. If you have any questions or concerns, you can follow-up with the referral source later.

INFORMATION COMPILATION

According to the handbook, Vocational Assessment for Special Needs (North Dakota, 1984), at a minimum, Strategy I vocational assessment for special needs people, handicapped and disadvantaged, consists of gathering (or reviewing) and interpreting the different types of data. These types of data include:

* Special Education Data - A handicapped student being considered for special education services must have received a comprehensive assessment to determine the student's eligibility and needs for special education placement and services. Special education assessment data gathered and reviewed may include: assessments of language, physical, social, emotional/behavioral, intellectual and learning factors, including an assessment of adaptive behavior. Much of these data are also available on a disadvantaged individual and should be utilized. Potential resources include obtaining information from Corrections, Job Training Partnership Act (JTPA) agencies, and mental health.

* Interview. The individual is interviewed to determine his or her interest in vocational education or jobs and social competence/adaptive behavior related to performance in occupations. The evaluator may develop or use a structured interview form for this process (see end of section for sample form). A teacher or someone who has good rapport with the individual may conduct this part of the assessment.

* Conference with the student's parents (if the student is under 18). The parents should be interviewed to determine their career expectations for the student and to discuss their perceptions of the student's social competence/adaptive behavior as it relates to performance in vocational education.

* Information from Significant Others. Significant others include counselors, social workers, therapists, teachers, medical personnel etc. They may have valuable insights that cannot be obtained from looking at records or talking with the individual.

* Aptitude, Achievement, Interest Information. Minimum requirements in a screening assessment of aptitude, achievement, and interest are to review and interpret existing data.

* Cumulative Records. The following types of information from cumulative records should be collected for use in decision-making: grades, group achievement and/or other test data, attendance, discipline records, and medical/health records.

It is possible that data gathering and interpretation will yield sufficient vocational interest, aptitude, and ability information, thereby eliminating the need for further assessment. A screening assessment may also reveal need for additional assessment (Strategy II).

Selection of the appropriate strategy will depend on two factors, your programs assessment resources and the type of information needed about the individual in order to make vocational planning decisions. Use of either the strategy will require completion of certain steps. The following is a checklist of activities adapted from the Vocational Assessment of Students with Special Needs: An Implementation Manual, Occupational Curriculum Lab, East Texas State University.

Strategy I: Screening Assessment

___ Develop process to initiate vocational assessment (referral)

___ Identify information to gather (medical, psychological, work history)

___ Select or develop teacher forms, checklists, etc., to document assessment

___ Identify what teachers, counselors, employers, etc, will have input

___ Identify who will interview individual

___ Identify who will gather and summarize information

___ Report information

Strategy II: Specific Skill Assessment

___ Complete steps in screening assessment

___ Determine which additional assessment tools or techniques are appropriate

___ Determine who is to administer them

___ Determine when and where to administer

___ Report information

SAMPLE FORMS
SECTION III - SCREENING ASSESSMENT

Form VII - Vocational Assessment Release Form

Form VIII - Referral Form

Form IX - Initial Intake/Interview Form

VOCATIONAL ASSESSMENT RELEASE FORM

I understand that I will be participating in a vocational assessment in order to determine my vocational goals. I agree to notify the evaluators of any and all known physical disabilities, problems, or circumstances that would directly affect my performance prior to the testing process.

Check any of the following that you have difficulty with. Please explain:

_____ sitting or standing tolerance

_____ vision

_____ hearing

_____ lifting

_____ medication, type _____ reason _____

_____ physical limitations

_____ stress tolerance

_____ learning problems

Participant Signature:

_____ Date _____

Parent Signature: (if participant is under 18 years of age)

_____ Date _____

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REFERRAL FORM

Name: _____ Date: _____

Address: _____

Telephone: _____

Date of Birth: _____

Social Security Number _____

_____

Person or Agency referring (if different than above): _____

Address: _____

Telephone: _____

_____

Reason for the Referral for Vocational Assessment
Please provide information for the following areas.

Interest:

General Educational Development:

Independence:

Physical, Emotional and Social Tolerances:

Vocational Skills and Abilities:

What is your expected outcome from this Vocational Assessment?

Are services from any other agencies being received? yes____ no____

If yes, please list with a contact person and telephone

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INITIAL INTAKE/INTERVIEW FORM

Date: _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____

Parent or Guardian (if minor): _____

Address (if different): _____

City: _____ State: _____ Zip: _____

School: _____

Date of Birth: _____

Ethnic Background: _____

Family Status: _____

Explain any of the following with which you have difficulty:

Vision: _____

Hearing: _____

Lifting: _____

Sitting or Standing Tolerance: _____

Medications: _____

Physical Limitations: _____

Stress Tolerance: _____

Learning Problems: _____

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VOCATIONAL INTEREST (GOALS):

CAREER OR JOB IN WHICH YOU ARE INTERESTED

_____

Work and Life Experiences:

Current Job: _____

Full Time: _____ Part Time: _____

Current Duties: _____

_____

_____

_____

Past Job Experiences: _____

_____

_____

Volunteer Experiences: _____

_____

_____

Other Work-related Experiences: _____

_____

_____

Likes and Dislikes in Work Experience: _____

_____

_____

Special Problems in Employability: _____

_____

_____

Special Skills and Talents: _____

_____

_____

EDUCATIONAL BACKGROUND

Highest Level Completed:

_____ 8th Grade

_____ High School

_____ GED

_____ College--Number of Years: ___1___2___3___4

Name of Schools Attended: (Last one attended first):

_____

_____

Special Training: _____

_____

Problems or Difficulties Encountered in Education: _____

_____

_____

Favorite Subjects: _____

_____

Problems Anticipated in Planning Future Education: _____

_____

_____

Time Available to Train in Future: _____ yes _____ no

How Long? _____

Resources (Funds) Available: _____

_____

Do you have transportation? _____ yes _____ no

Method: _____

Sources of Financial Suppport: _____

_____

July, 1985

Specific Skill Assessment

Strategy II: Specific Skill Vocational Assessment

SPECIFIC SKILLS ASSESSMENT

Screening Assessment
↓
Identification and Utilization of
Specific Tool and Techniques Needed
↓
including:
Vocational Interest Inventories
Academic Tests
Work Samples
Experiential Assessment
Learning Styles Questionnaires
Observation and Recording
↓
Exit Interviewing
↓
Report Writing
↓
Planning Conference
↓
Program Implementation

In some cases, after gathering all existing information about a special needs person, the evaluator will not have sufficient data to make programming or placement decisions, nor to do long range planning. A specific vocational assessment will be necessary at this point.

The objective of Strategy II assessment is to collect and interpret additional information about an individual's vocational interests, abilities and aptitudes, including vocational awareness and work related behaviors. Several methods for such assessment will be discussed, including instruments you can purchase and those you can develop. Assessment methods should be chosen and utilized only if they yield vocationally relevant information.

It is suggested that staff members such as counselors, educational diagnosticians, or psychologists be responsible for collecting these kinds of data. However, if approved preservice or inservice training in the administration and interpretation of assessment tools and techniques is offered to special needs personnel, teachers or other professionals, these persons may also conduct specific skills assessment.

Assessment Design

After the Screening Assessment, you are ready to plan the remainder of the process. Individual planning is done to insure the assessment is accomplished in an organized and systematic fashion. The assessment should be designed to address the unique needs of the individual. A plan determines the depth and focus of the evaluation process. No two assessments should be exactly the same. The assessment plan is based on:

1. The age of the individual
2. Assessment techniques available.
3. The training and expertise of the evaluator.
4. Purpose and expected outcomes of the assessment. What do you want to find about the individual?

TO DESIGN THE INDIVIDUAL ASSESSMENT DECIDE:

1. The purpose and expected outcomes of the vocational assessment.
2. The appropriate assessment tools and techniques for making vocational decisions
3. Persons responsible and a timeline.

The assessment, while individual, should include a variety of methods. There are several tools and techniques available to you. They include:

* Vocational Interest Inventories
* Academic Assessment
* Work Samples
* Experiential Assessment (shadowing, situational assessment, job tryout).
* Observation and Recording.
* Learning Styles Questionnaires.

These tools and techniques will be described in this section.

VOCATIONAL INTEREST INVENTORIES

Interest inventories typically determine an individual's occupational preference based upon their personal likes and dislikes or values. General characteristics of these tests include:

* They are frequently paper and pencil tests, but may also be augmented by slide-tape or video presentations;

* They may consider the persons skills, abilities, strengths and weaknesses, likes and dislikes, and match this information to specific career areas.

* Most interest test offer forced choice, responses. This means the individual must choose one answer above others.

Advantages:

* Interest tests provide the evaluator with information about specific occupational interest area for the individual.

* Job satisfaction is highly correlated to interest so this is an important informational area.

Disadvantages:

* The individual may not have enough awareness and knowledge about specific occupations to make reasonable informed choices on the interest test.

* The individual may have poor reading skills and not be able to read and comprehend the test which, in turn, make the results questionable.

Selection Considerations:

Select an interest test that is appropriate for the person you are assessing. For example, if the individual has:

* Poor verbal receptive skills - select a picture inventory.

* Poor reading skills - select a picture inventory, an audio/visual survey, or an interest test that is easily read or has a low level reading vocabulary.

* Limited vocational awareness - select an interest test that looks at personal skills and interest and matches to specific occupations, video or slide-tape presentations.

Other selection considerations include:

* cost and budget constraints;
* administration time and method.
* The interest inventory would be most useful if it represented jobs available in your community.

Development Considerations:

If you are unable to find an applicable interest inventory, create your own.

Administration:

Optimal test results are realized when an assessment instrument is given correctly.

* Read the test manual
* Practice the test administration
* Ask for assistance if necessary
* Be sure that the individual being assessed has the necessary skills to take the test. (ability to read and comprehend, physical abilities etc.)
* Administer the test in a well lit, comfortable environment, free from noise.

A list of some of the more commonly-known interest inventories is provided at the end of this section.

An informal interest questionnaire is included at the end of this section. Use it or modify it to meet your needs.

ACADEMIC ASSESSMENT

Academic information is important to the assessment process. Many times this information is already available. Ask your referral source to look in the school records. If you do not have academic information or the information you have is out dated (no more than a year old) then you will need to consider academic testing. Academic tests are usually achievement tests that measure the individual's current level of functioning in a variety of areas such as:

- spelling
- math
- reading comprehension
- reading recognition
- vocabulary

Academic tests are usually paper and pencil tests, but they are also found in computerized format. Many academic tests are diagnostic. In other words, they will break down the academic area so the evaluator can see where the place the individual is having difficulty, for example; if the individual can perform basic addition and subtraction problems, but cannot multiply. Determining a person's academic weaknesses and providing remediation services might increase his/her occupational possibilities.

Advantages:

* Academic tests can give you current accurate information on the individual and help decide where to begin remediation.

* Academic assessment will help match an individual to a specific vocational direction.

Disadvantages:

* Academic assessment can cause anxiety and results may not be accurate.

* Evaluators sometimes put too much emphasis on the academic ability of the individual.

Selection Considerations:

* Consider specific academic skills you wish to test and the functioning level of the individual you are assessing.

* Consider the test, design, content and administration.

* Consider using more than one academic assessment to meet the varying needs of the individual.

* Determine the individual's appropriate reading level and select a test accordingly.

Administration:

* When giving academic assessments be sure to:

* Read the manual and determine how to administer and score the test,

* practice giving the test,

* try taking the test yourself,

* give the test in a quiet, well lit room,

* have the necessary materials ready for the assessment.

Academic skills can also be assessed by developing a checklist or test which measures the specific skills. For example, using a ruler is an important academic skill in the carpentry profession. In order to determine whether or not the individual already possesses that skill, the evaluator could develop a sample of representative questions about ruler usage. If the individual performs well, he or she may have already acquired the skills, otherwise use of the ruler might be an area which will require training. An advantage to developing a test yourself is that you can design it to meet your specific needs. It measures only what you want to have assessed. An example of an informally developed reading test is located in the Resources Section of the manual.

WORKSAMPLES

Strategy II assessment data collection may also include use of work samples. Work samples are tasks or activities that simulate job traits and are used to assess skills, aptitudes, and abilities similar to those required in competitive employment situations. Work samples can be purchased or developed at the local level in vocational labs or classrooms to simulate jobs available in the community.

Work samples do vary in terms of how closely they represent real work. A work sample, sometimes referred to as job sample, may replicate a job from industry in its entirety, including all the essential tools, equipment, materials, work standards, and procedure. On the other hand, work samples can be tasks which assess a single worker trait or characteristic which may be relevant to a specific job or group of jobs (Pruitt, 1970).

Advantages: According to Wesolek (1985):

* Work samples provide job exploration. Given actual simulations of work activities, individuals often begin to think seriously about the type of work they might like to do, i.e. the individual enjoyed working with small tools.

* Work samples allow actual job simulations to be brought into the classroom setting where they can be tried out without excess pressure.

* Individuals respond more naturally to work related rather than abstract tasks.

* Work samples can eliminate cultural, educational and language barriers in the assessment of vocational potential.

* Work samples allow determination of strengths and weaknesses on work related tasks in a setting where remediation can take place.

Disadvantages: Wesolek(1985) also mentions the following drawbacks to using work samples:

* Developing specific work sample for all the jobs in the labor market is not feasible.

* There sometimes is limited comparison between the environment in industry and the work sample setting.

* Technological change is so rapid that work samples may become obselete and therefore, inapplicable.

Selection Considerations:

* Cost of the work sample is a major consideration. Most commercially produced work samples cost over $1,000.

* Make sure the work sample is designed to assess the type of individuals with whom you are working and the content you want to assess.

* If parts of the work sample need to be replaced, are they readily available?

Administration:

* Be sure to get training in the use of the system prior to administering it. Many companies offer training in the use of their worksample products.

* Practice giving the work sample. If you have questions, call the company who sold it to you and ask them.

Development Considerations:

Work samples can be purchased or developed. A listing of some commercially available work samples is provided at the end of this section.

Work samples can also be made by the evaluator. The evaluator may decide to develop a work sample if they need information about the individual's performance of a specific job skill. For instance, if the evaluator needs to determine how well the individual uses small tools, the evaluator might provide the student with those tools to complete a task in the assessment setting, rather than place the individual on the job. A format for developing a work sample is located at the end of this section.

EXPERIENTIAL ASSESSMENT

This type of assessment is also known as situational assessment, job shadowing or job tryout depending upon purpose of the experience. The basis for all three is that the individual is given an opportunity to perform the job or a portion of the job in the actual job setting. The term job shadowing usually refers to trying the job as a job exploration/interest activity. The term situational assessment is often used in the context of measuring the individual's social and emotional performance on the job. "Situational Assessment focuses on the individual's work personality including such factors as work motivation, work attitudes and work behaviors" (Department of Rehabilitation and Manpower Services n.d., pg. 105) Job try-out often denotes an assessment of the person's actual skills on the job. For the purposes of this manyal, these terms will be considered to represent the same technique and be referred to globally as experiential assessment.

Advantages: There are many benefits to this approach including:

* The individual is in the actual situation, so the likelihood of predicting success is increased.

* Interest, ability level, and work habits can be determined at the same time.

* The individual being assessed can make his/her own determination on interest for a particular area or program, thus, becoming part of the assessment process.

* Performing a real job may increase the individual's motivation to do well.

Disadvantages:

The major problem with this form of assessment is the time it takes to develop.

Administration:

* Provide the correct clothing and safety equipment for the assessment.
* Be sure to cover the safety aspects of the area or job.
* Introduce the individual to the employer or teacher.
* Give the individual a tour of the facility. Explain rules.
* Supervise the activities closely.
* Make sure the assessment is hands-on. Do not have the individual observe the entire time.
* Use your task analysis and directions as a guide.
* Be aware of the individuals tolerance, frustration, fatique level and comfort level. Make adjustments accordingly.
* Have the teacher or the employer monitor the progress occasionally and give you feedback.
* Monitor individual progress and ask for feedback about interest.
* Once the exploratory experience is complete, evaluate it with the individual you assessed.

A format for developing an experiential assessment is located at the end of this section. This form should be used after you have determined the person's interest in a program or job. An experiential assessment is also included in Section VI.

Development Considerations:

Developing an experiential assessment takes time and planning, however, it will become one of your most effective assessment tools.

To develop an experiential assessment you must;

* Survey your school or community for appropriate sites.

* Explain the process and elicit support from the teacher or employer.

* Develop with the employer or teacher several hands on activities that are representative of the job or program area. (be sure to include safety). The time spent in these activities will vary from several hours to a few days to weeks.

* Write down these activities in a task analysis format.

* Learn to do the activities yourself so you can instruct the individual you are assessing.

* Practice!

* Develop a system to determine mastery level and interest in the job or area.

* Evaluate your assessment to determine the appropriateness. Ask yourself, Did I get the information a expected to get?

* Make modifications and changes in your assessment based on your evaluation and technological advances.

* Include the instructor or employer in the evaluation process.

* Design a method for recording your evaluation results such as a checklist or observation record.

TASK ANALYSIS

A task analysis looks at every step of a task. By breaking down a job, it ensures that each component is taught and allows the instructor to determine exactly where a student has difficulty learning.

Example: Removing rear tire from a car.

1. Take jack out of the trunk.
2. Place block in front of front tire on opposite side of rear tire.
3. Place jack under rear bumper.
4. Remove hub cap with pry bar.
5. Place lug wrench over one leg nut.
6. Loosen lug nut by turning lug wrench counter-clockwise.
7. Loosen all lug nuts using the lug wrench in the same way.
8. Move jack handle up and down until jack lifts tire two inches off the ground.
9. Remove all lug nuts.
10. Grab tire and pull off by pulling it toward you.

MR Module

OBSERVING AND RECORDING BEHAVIOR

Another element of vocational assessment that is crucial in obtaining vocational information is behavioral observation and recording. Regardless of the type of work samples, job sites or situational settings, observing critical work behaviors is essential to maximizing the benefits of the vocational assessment process.

Advantages:

Observing how an individual reacts to supervision, solves problems, deals with other people, and handles frustrating work dilemmas is as important in understanding that individual and predicting vocational direction as are his/her test scores and work sample results. However, observing what happens is only part of the process.

Disadvantages:

The observer must record what happens. Relying on pure recall at the end of the session is not sufficient and will rarely reflect all the critical behaviors observed. Pen and paper have a better memory than the evaluator's recall (Lesnik, 1983).

Administration:

Some tips on how to be more effective in observing and recording behavior include:

* Provide a non-judgmental description of what the individual does, not an interpretation of what you think happened. For example: "Tore the paper as she removed it from the typewriter," is more accurate than writing: "Angerly ripped the paper from the typewriter in a fit of frustration." Until we have further observations to determine a consistent pattern of behavior and confront the student as to why the paper tore, we do not really know what precipitated the action.

* Describe what happened, not what didn't happen. For example: "Proceeded without inserting the guide bolts", as opposed to "Didn't follow instructions." It is also important to be specific.

* Use a terse, direct style where all words impart information. Learning to use efficient writing techniques will save time and enhance critical information.

* Use basic English avoiding jargon and vague descriptions which might be confusing. It should be written so that any reader can derive an accurate picture of what happened.

* Observe the individual periodically on each major task.

* Discuss what you observe to get the individual's perception of what happened and how they felt. Opportunity for feedback should be offered following the completion of each major work task.

* Develop a form to record observations. Several standard formats which include check lists of critical behaviors are available. A sample of one is included in Section V with the reporting forms.

* Situations in which the behavior occurs would be indicated. It is one thing to say, "talks with other people while taking a timed test", than for another to observe, "talks with people during breaks". To simply record, "talks with co-workers," would be incomplete and misleading.

It should be emphasized that systematically and objectively observing and recording the individual's behaviors along with using work performance results, will provide a more thorough picture of the person's work potentials. These observations will also help to verify and direct vocational planning and placement recommendations. (Wesolek, 1984)

LEARNING STYLES

The C.I.T.E. Learning Styles Instrument (Babich, Burdine, Albright and Randol, 1976) has been included because it can be a valuable tool in determining a person's preferred learning style. This type of information is useful for the selection of assessment tools and techniques and for making recommendations regarding vocational instructional techniques.

The follow information about the C.I.T.E. has been taken from Puzzled About Educating Special Needs Students?: A Handbook on Modifying Vocational Curricula for Handicapped Students, Wisconsin Vocational Studies Center, University of Wisconsin - Madison.

The C.I.T.E. is divided into three main areas: information gathering, work conditions and expressive preference. Information gathering includes auditory language, visual language, auditory numerical, visual numerical, and auditory-visual-kinesthetic. Work conditions focus on whether a person works better alone or in a group. Expressiveness preference considers whether the person is more effective with oral or written communication. Each of these nine styles areas of the C.I.T.E. Instrument is described below.

1. Auditory Language

   - This is the person who learns from hearing words spoken. He or she may vocalize or move his or her lips or throat while reading, particularly when striving to understand new material. He or she will be more capable of understanding and remembering words or facts that have been learned by hearing.

2. Visual Language

   - This is the person who learns well from seeing words in books, on the chalkboard, charts or workbooks. He or she may even write down words that are given orally, in order to learn by seeing them on paper. This person remembers and uses information better if he or she has read it.

3. Auditory Numerical

   - This person learns from hearing numbers and oral explanations. Remembering telephone and locker numbers is easy, and he or she may be successful with oral number games and puzzles. This person may do just as well without his math book, for written materials are not important. He or she can probably work problems in his/her head, and may say numbers out loud when reading.

4. Visual Numerical

   - This person must see numbers - on the board, in a book, or on a paper -- in order to work with them. He or she is more likely to remember and understand math facts when they are presented visually, but doesn't seem to need as much oral explanation.

5. Auditory-Visual-Kinesthetic Combination

   - The A-V-K person learns best by doing, becoming involved with the material. He or she profits from a combination of stimuli. The manipulation of material along with accompanying sight and sounds (words and numbers seen and heard) will aid his or her learning. They may not seem to understand or be able to concentrate or work unless totally involved. He or she seeks to handle, touch and work with what he or she is learning.

6. Individual Learner

   - This person gets more work done alone. He or she thinks best and remembers more when the learning has been done alone.

7. Group Learner

   - This person prefers to study with at least one other person, and will not get as much done alone. He or she values others' opinions and preferences. Group interaction increases his or her learning and later recognition of facts.

8. Oral Expressive

   - This person prefers to tell what he or she knows. He or she talks fluently, comfortably, and clearly. This person may know more than written tests show. He or she is probably less shy than others about giving reports or talking. Muscular coordination involved in writing may be difficult for this person. Organizing and putting thoughts on paper may be too slow and tedious a task for this student.

9. Written Expressive

   - This person prefers to write fluent essays and good answers on tests to show what he or she knows. He or she feels less comfortable when oral answers or reports are required. His or her thoughts are better organized on paper than when they are given orally.

Administration:

The C.I.T.E. Learning Styles Instrument is a self-report form which asks individuals to rank each statement with a number from 4 ("most like me") to 1 ("least like me"). To administer the C.I.T.E., distribute tests and answer sheets to each person. Explain that the statements are not questions with right or wrong answers, and that no grades will be given. Individuals' responses should reflect their feelings, and usually their first choice will be best. Every question should be answered.

To score the C.I.T.E. Instrument, use the score sheet. The numbers listed under each of the nine learning style areas designate the statements on the Instrument which measure the particular style. For example, statements 5, 13, 21, 29 and 37 all measure the visual language style of learning. To determine a person's score for each style:

- first, look up the weighted response given for each statement and write it in the appropriate blank
- second, total up the numbers in each learning style category
- third, multiply the totals by 2.

A score of 33-40 indicates that this is a major learning style for the person. He or she prefers this mode of learning and feels comfortable with it. There is not necessarily only one preferred style. A score from 20-32 shows a minor learning style.

GENERAL ASSESSMENT GUIDELINES

According to the U.S. Department of Labor Manpower Administration (1973), some of the problems with traditional paper and pencil tests are:

* Most of these tests are similar to classroom examinations with which many disadvantaged persons have a history of failure, and which therefore may make them feel anxious and uncomfortable.

* Many of these tests have written directions at a rather high reading level which must be understood by the testee if measurements are to be accurate.

* Individual test items also may be at a relatively high reading level and may reflect cultural content of which the disadvantaged have little knowledge.

* Item content of tests designed for children but administered to special needs adults may be simple enough in reading level but assess little knowledge. Such tests may inslut the adult resulting in self-conscious or angry behaviors.

* Many disadvantaged persons have inadequate experience with tests of any kind, and so do not have the "test wiseness" other individuals may have.

* Many tests do not seem to bear any significant relationship to the individual characteristics pertinent to job success.

Federal legislation such as The Education for All Handicapped Children Act (Public Law 94-142) and Section 504 of the Rehabilitation Act of 1973 requires the use of standardized instruments. More specifically, both of these acts contain guidelines for the use of assessment.

For example, the "protection in evaluation procedures" section of Public Law 94-142 mandates nondiscriminatory assessment of handicapped students. The law requires state and local school personnel to insure that:

1. Testing and evaluation materials and procedures which are used to evaluate and place handicapped students will be selected and administered in ways which are not racially or culturally discriminatory.

2. Assessment procedures or materials will be provided and administered in the student's native language or mode of communication, unless it clearly is not feasible.

3. No single procedure shall be the sole criterion for determining an appropriate educational program for a student.

Section 504 also outlines certain safeguards in testing handicapped students. It states that educational institutions must insure that:

1. Tests and other evaluation materials have been validated for the specific purpose for which they are used and are to be administered by trained personnel.

2. Tests and other evaluation materials include those tailored to assess specific areas of educational need and not merely those which are designed to provide a single general intelligence quotient.

3. Tests are selected and administered so that, when a test is administered to a student with impaired sensory, manual, or speaking skills, the test results accurately reflect the student's aptitude or achievement level or whatever the test intends to measure, rather than the student's impaired sensory, manual, or speaking skills, unless the test intends to measure those skills.

4. When interpreting the evaluation data and making placement decisions, the school shall:

   - draw upon information from a variety of sources, including aptitude and achievement tests, teacher recommendations, physical condition, social or cultural background, and adaptive behavior

   - establish procedures to ensure that information obtained from all sources is documented and carefully considered

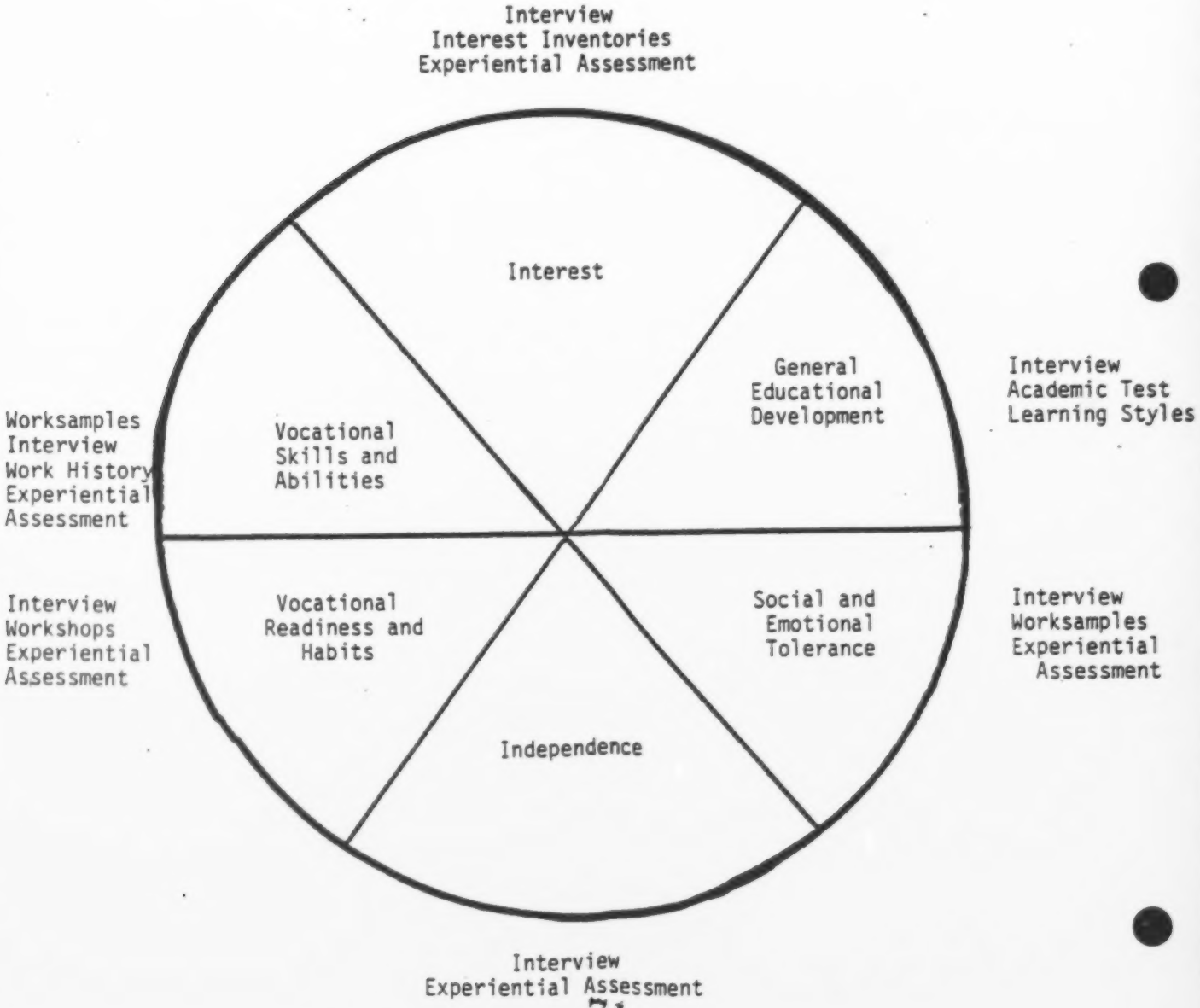
   - ensure that the placement decision is made by a group, including persons knowledgeable about the student, the meaning of the evaluation data, and the placement options

   - ensure that the placement decision is made in conformity with the law.

5. Schools...shall establish procedures...for periodic reevaluation of students who have been provided special education and related services. A reevaluation procedure consistent with the Education for the Handicapped Act is one means of meeting this requirement.

These guidelines are also applicable to the use of assessment in making a career/vocational decision.

To summarize how information can be assessed using several techniques, a diagram is provided below:



SAMPLE FORMS
SECTION IV - SPECIFIC SKILL ASSESSMENT

Form X - Commercially Available Assessment Instruments

Form XI - Addresses of Test Publishers

Form XII - Vocational Interest Questionnaire

Form XIII - Format for Developing a Work Sample

Form XIV - Experiential Assessment Design

Form XV - Work Sample Comparison

Commercially - Available Assessment Instruments

The following section contains a list of assessment instruments that can be used with special needs populations. This is not an all inclusive list of available instruments but a sample of assessment instruments that are frequently used. The list includes assessment instruments which evaluate content in the following areas:

* Academic (general educational development)
* Vocational Interest
* Vocational Skills and Abilities

Age ranges and handicapping conditions have been included only as a guideline.

Legend

MH - Mentally Handicapped

LD - Learning Disabled

PD - Physically Disabled

BD-ED - Behavioral Disordered-Emotionally Disturbed

VI - Visually Impaired

HI - Hearing Impaired

DIS - Disadvantaged

Test and Publisher	Population	Ages - Comments
Vocational Interest Inventories		
AAMD - Becker Reading - Free Vocational Interest Inventory American Association of Mental Deficiency	MH	High School no reading
Career Occupational Preference System (COPS) Edits	MH, LD, HI, BD-ED, PD VJ(with reader)	High school Post-Secondary 4th grade reading
Gordon Occupational Check List	MH, LD, PD, BD-ED, HI, VI	5th grade reading level
Kuder Occupational Interest Survey Science Research Socials	LD, BD-ED, HI, VI, PD	Secondary and Post-secondary 5th grade reading
Career Decision-Making System American Guidance Service	LD, HI, VI, BD-ED, PD	secondary, part secondary
Self-Directed Search Consulting Psychologist Press	LD, HI, VI, BD-ED, PH	High school, Adult
Wide Range Interest and Opinion Test Guidance Associates	MH, LD, PD, VI, HI,	Ages 16-35
Campus MAPS Making Academic Program Selections Campus MAPS Program Office of University Communications 271 Aylesworth Colorado State University Fort Collins, CO 80523	Dis, LD PD	College Bound Students

Academic Test	Population	Ages-Comments
Adult Basic Learning Examination (ABLE) Harcourt, Brace & Jovanich, Inc.	All	Adult (scores reading, math, spelling)
Brigance Inventory of Essential Skills Curriculum Associates	MH, LD Dis	grade 10-adult (reading, language, arts, math)
Gray Oral Reading Test The Bobbs Merrill Co.	All	grades 1-16 & adult
Key Math American Guidance Service	All	grades K-7
Peabody Individual Achievement Test (PIAT) American Guidance Service	All	grades 9-16 & adults
California Achievement Test (CAT) Levels 14-19 CTB - McGraw-Hill	VI, HI, PD	grades 3-13
SRA Pictoral Reasoning TEst Science Research Associates		Age 14 and over
Stanford Diagnostic Reading Test Level II Harcourt, Brace & Jovanich		grades 4-9
Wide Range Achievement Test (WRAT) Guidance Associates	MH, LD Dis	5 yrs - adult
Woodcock Johnson Psychoeducational Battery - Part II	MH, LD, BD-ED	3 yrs - adult

Test & Publisher	Population	Age - comments
Vocational Skills and Abilities	All involve reading and/or visual perception. Therefore, the degree of visual impairment is the deciding perception factor.	
Purdue Pegboard Science Research Associates	All	
Crawford Small Parts Dexterity Test Psychological Corp.	All	
Bennet Hand-Tool Dexterity Test Psychological Corp.	All	
Bennet Test of Mechanical Comprehension Psychological Corp.	All	
Social and Prevocational Inventory Battery (SPIB) CTB McGraw-Hill	EH, BD-ED	
Revised Minnesota Paper Form Test Psychological Corp.	EH, LD, PD, BD-ED, HI, VI	
Differential Aptitude Test (DAT) Psychological Corp	PD, LD, BD-ED, HI, VI	Grades 8-12
General Aptitude Test Battery (GATB) U.S. Government Printing	BD-ED, HI VI, PD	Grades 9-12

ADDRESSES OF TEST PUBLISHERS

American Association on Mental Deficiency
5201 Connecticut Avenue, N.W.
Washington, DC 20015

American Guidance Service, Inc.
Publishers' Building
Circle Pines, Minnesota 55014

Bobbs-Merrill Co.
4300 West 62nd Street
Indianapolis, Indiana 46268

Consulting Psychologist Press. Inc.
577 College AVenue
P.O. Box 60070
Palo Alto, CA 94306

CTB/McGraw-Hill
Del Monte Research Park
Monterey, California 93940

Curriculum Associates, Inc.
5 Esquire Road
North Billerica, MA 01862-2589

Edits
P.O. Box 7234
San Diego, CA 92107

Guidance Associates of Delaware, Inc.
1526 Gilpin Avenue
Wilmington, Delaware 19806

Harcourt Brace Jovanich
757 Third Avenue
New York City, NY 10017

The Psychological Corporation
757 Third Avenue
New York , NY 10017

Science Research Associates, Inc.
259 East Erie Street
Chicago, Illinois 60611

U.S. Government Printing Office
Washington, DC 20402

NAME_____

VOCATIONAL INTEREST QUESTIONNAIRE

1. Name 2 jobs that you think you could do right now, without any training:

   1. _____

   2. _____

2. Name 2 jobs that you would like to do, if you had the training:

   1. _____

   2. _____

3. How much money do you think you will make on your first job?

   _____per hour _____per week

4. What job would you like to have 5 years from now?

   _____

5. Would you like to work:

   Inside____ Outside_____

6. Would you like to work:

   With other people_____ By yourself_____

7. Would you do non-clean work?

   Yes, I would_____ No, I won't_____

8. Have you ever worked and received a paycheck? Yes_____ No_____

9. What kind of work do you do?_____

Vocational Interest Questionnaire
Page 2

10. What kind of work does your parent or guardian do?

Father_____ Mother_____

Guardian_____

11. Do you have a driver's license? Yes____ No____

12. Name any hobbies or interests you have. _____
_____

13. What kind of work would you like better? (CHECK ONE (1)).

____One with new things to learn each week.

____One where you could learn only one or two things well.

_____
Adapted from: St. Louis Special School District

Format For Developing A Work Sample

Development of a Work Sample for Vocational Performance Screening Assessment

1. Select or state a vocational area or areas.

2. List and briefly describe the five or more of the most common types of jobs your vocational program places students into.

3. Rank order these jobs from most frequent to least frequent.

4. Select the top three jobs and completely task analyze these three jobs listing all of the performance tasks involved.

5. Select and list three similar tasks that occur in each of the three jobs.

6. Motor skill requirements--provide a detailed analysis of the manual dexterity, eye-hand coordination, and motor functions required of a worker for successful completion of the three previously selected tasks.

7. Specify the equipment, materials, and supplies necessary for the completion of each of the three tasks.

8. Determine an acceptable rate of performance for each of the tasks.

9. Determine how you will measure or rate performance in each of the three tasks.

10. Describe the student or type of handicapped or disadvantaged student that this work sample will be used with.

11. Describe in detail how you would teach each of the three tasks to the student, prior to his performance evaluation.

Source: George Zenk. Business and Vocational Education. University of North Dakota. 1982.

Experiential Assessment Design

1. Skill to be assessed: _____

2. Task analysis of skill:

_____

_____

_____

_____

_____

_____

3. Method of measurement (yes, not rating scale checklist):

4. Method of Administration:

5. Assessment rating (pass or fail):

6. Comments/notes:

WORK SAMPLE COMPARISON

Outline	Career Hester	McCarron Dial	Micro-TOWER
	Career Evaluation Sys. Inc. 7788 Milwaukee Ave Niles, IL 60649	McCarron & Dial Systems P.O. Box 45628 Dallas, TX 75245	ICD Rehabilitation & Research Center 340 E. 24th St. N.Y., NY 10010
Target group	all intelligence levels, physically disabled normal populations	mentally retarded, mentally ill, learning disabilities	general rehabilitation population
Basis of System	DOT	5 neuropsuchological factors	DOT
Time to Complete Entire System	5 hours	2 weeks recommended	15-20 hours
Vocational Exploration	little use	little use	some use
Vocational Recommendations	completely related to DOT	1 of 5 program areas are recommended	related to DOT

SOURCE: A COMPARISON OF COMMERCIAL VOCATIONAL EVALUATION SYSTEMS, Second Edition, Karl F. Botterbusch, Materials Development Center, Stout Vocational Rehabilitation Institute, University of Wiscon-Stout, Menomonie, WI 54751, 1982.

SAMPLE FORM XV

JEVS	Prep	Valpar #17	MESA
Vocational Research Inst. Jewish Employment and Vocational Service 1700 Sansom St., 9th Fl. Philadelphia, PA 19103	Prep, Incorporated 1007 Whitehead Rd Extension Trenton, NJ 08638	Valpar International 3801 E. 34th St., Suite 105 Tucson, AZ 85713	Valpar International
initially for disadvantaged	manpower, secondary education, and special needs	mentally retarded	general population
DOT	15 career systems of USDE	not specified	DOT
6-7 days	average - 2 hours per work sample	5 1/2 hours	3 1/2 hours
limited use	extensive occupational information given	some use	screening
highly related to the DOT	specific jobs and groups of jobs	largely dependent upon user	highly related to the DOT and career planning

SAMPLE FORM XV

SAGE	TAP	TOWER
Progressive Evaluation Systems Corp. 21 Paulding St. Pleasantville, NY 10570	Talent Assessment Programs P.O. Box 5087 Jacksonville, FL 32207	International Center for the Disabled 340 E. 24th St. New York, NY 10010
students; disadvantaged borderline mentally retarded	mental levels above trainable mentally retarded	physicaly and emotionally disabled
DOT	DOT and GOE	job analysis of possible jobs for disabled
4 hours	2 1/2 hours	3 weeks
very limited use	limited use	exposure to a variety of work areas
lists job titles and DOT codes	related to specific jobs	limited to jobs related to work areas

SAMPLE FORM XV

Valpar	VIEWS	VITAS
Valpar International 3861 E. 34th Street Tucson, AZ 85713	Vocational Research Inst. Jewish Employment and Vocational Service 1700 Sansom St., 9th Floor Philadelphia, PA 19103	Vocational Research Inst. Jewish Employment and Vocational Service 1700 Sansom St., 9th Floor Philadelphia, PA 19103
general population, industrially injured worker	mentally retarded	educationally and culturally disadvantaged
trait and factor	DOT	DOT; GOE
estimate about 1 hour per work sample	20 to 35 hours	15 hours
limited use	little use	little use
depends upon use in facility	related to DOT	related to DOT and supportive services

SAMPLE FORM XV

P.A.S.	S.A.M.S.	APTICOM	Project Discovery
Prevocational Assessment Screen Piney Mountain Press, Inc Box 333 Cleveland, GA 30528	Piney Mountain Press, Inc. Box 333 Cleveland, GA 30528	Vocational Research Institute 2100 Art Street- 6th Floor	Experience Education 401 Reed Street Red Oak, IA 51566
Mildly handicapped and disadvantaged	mildly handicapped and disadvantaged	high school students and adults	all ages, all levels
		based upon Occupational Aptitude Patterns and DOT work groups	27 modules based upon worker characteristics in the DOT
correlated to the DOT 50 minutes	related to the DOT	70 minutes	time varies with each sample
some use	some use	manipulative and aptitude testing	developed for vocational exploration
a screening instrument		computerized print-out of scores	worker interest survey

A series of manuals describing how to make specific work samples can be obtained from:

Materials Development Clearinghouse
Materials Development Center
University of Wisconsin-Stout
Menomonie, WI 54751

SAMPLE FORM XV

Reporting
Information

INTRODUCTION

The information you have collected during the vocational assessment should be:

* Reviewed during an exit interview with the person assessed

* Written in a report format

* Discussed during an assessment conference.

This section of the manual will provide descriptions of each of these components, but first a note.

All information elicited during the vocational assessment must be relevant for making vocational decisions and it must be accurate. This means you must always ask yourself if there is another method or test which will enable you to check the accuracy of the information you have acquired. You must take the information you have gathered and make vocational decisions, not moral judgments. VOCATIONAL ASSESSMENT MUST NOT BE USED TO PREVENT A PERSON FROM HAVING ANY OPPORTUNITIES. Performance during the assessment must not be reflective or bias on the basis of race, religion, age or sex. Vocational evaluators are obligated to assist individuals to make decisions regarding their compatibility with a job or vocational education curriculum. No information is necessary unless it is important to better understanding the person's vocational strengths.

EXIT INTERVIEW

After the formal and informal assessment is completed, take some time to review the information you have gathered. Determine the completeness of the assessment. After you have reviewed your data hold another interview with the individual. The purpose of this interview is to:

1. Collect any missing data or information from the individual you assessed.

2. Discuss the assessment process with the individual and answer any questions.

3. Provide the individual with some feedback about their performance.

4. Schedule the assessment conference to review the assessment results and your findings.

5. This is a good time to ask the individual what he/she felt about the assessment process.

A sample form is provided at the end of this section which enables you to monitor your assessment program and to ask questions such as: Are you providing the individual with enough information about the process so that he/she is relatively comfortable and open to your questions? Are you gathering pertinent information in order to help the person in he/she career/vocational planning? The answers to these questions will help improve your assessment program.

Remember to use the same interviewing techniques that are outlined in the Initial Interview, Section III.

REPORT

A comprehensive picture of the individual has been developed from information derived during the assessment. The results of the vocational assessment must be compiled, organized and interpreted in written form.

You must draw inferences and make recommendations from the entire assessment process to answer the referral question. There are four steps in the assessment reporting process.

* Interpreting assessment data.

* Drawing Inferences.

* Making recommendations.

* Writing the report.

* Confidentiality

* Interpreting Assessment Data

1. Look at the test scores and try to determine the strengths and weaknesses in each area assessed.

2. Use the experiential assessment results and the observational information to validate your test scores and make additional determinations about the individuals skills from this information.

3. Put your data in an organized, systematic format by using the form at the end of this section, or create your own.

* Drawing Inferences

1. Determine current level of functioning.

2. Look for patterns in the assessment data.

3. Draw conclusions about the individual from the assessment information.

* Making Recommendations

1. Answer the purpose question and express your recommendations for the individual.

2. Make clear and specific recommendations regarding suggested course of action. For example, what kind of vocational training is recommended?.

3. Don't be afraid to make decisions based on the assessment data. After all, that is why you are doing the assessment.

4. Look closely at ways to modify vocational programs, training, jobs, and classes to meet the unique needs of the individual.

* Writing the Report

Now it is time to put all the information gathered during the assessment process in writing.

1. Keep your narrative short and to the point, it will be more useful to the consumer.

2. Use a reporting form to make your assessment report clear, comprehensive and organized (sample 79)

3. Use simple language and terms so a lay person can understand the results.

4. Attach supportive data such as test profiles, graphs, etc. This information will help a more knowledgeable service provider obtain additional specific information.

5. Give a copy of the assessment report to the individual you assessed and the referral source. Other copies can be given to other key individuals upon request of the assessed individual.

6. Computerizing this process will make it quicker and more efficient.

Sample reporting forms are at the end of this section.

Confidentiality

Remember, the information you have obtained is private. It must be treated in the same fashion that medical doctors and lawyers treat the information they obtain from patients or clients. Vocational assessment results cannot be shared without permission from the person evaluated. It should only be provided to those participating in the vocational planning process.

Assessment Conference

After you have finished your report, a conference should be held with the individual you assessed and the referral source. The purpose of the meeting is to;

* Explain the assessment results to the referral service and to other interested parties.

* Develop an implementation plan (IWVP, IEP or EDP).

*Explanation of Assessment Results

The individual you assessed will be very interested in how he/she did. It is important to go over the assessment report carefully and explain the results. It is appropriate to include the person who made the referral at the conference. They will be an integral part of the planning and will assist the individual in carrying out your recommendations.

Some suggestions are:

Use simple, understandable language when explaining the assessment results.

Cover every aspect of the assessment including a review of the testing profiles, graphs, etc.

Encourage questions.

By the nature of the vocational assessment, everyone will have some weaknesses. This may be difficult for the individual to accept. Your attitude can aid them in accepting weaknesses and focusing on strengths.

Be open and honest.

*Implementation

A vocational assessment is only valuable if the recommendations are carried out. To make the recommendations a reality, a plan is needed for the individual you assessed.

1. Use a planning form such as the IWVP located in Section VI, Resources.

2. Develop the plan jointly with the individual and referral source.

3. Include other key personnel in the planning stages to gather additional information and insure full cooperation.

4. Develop a time line.

5. Indicate services to be provided.

6. Identify personnel to assist with the implementation of the plan.

7. Develop a follow up system to insure the plan is being carried out.

SAMPLE FORMS
SECTION V - REPORTING VOCATIONAL ASSESSMENT INFORMATION

Form XVI - Assessment Evaluation

Form XVII - Assessment Summary Sheet

Form XVIII - Vocational Assessment Summary

Form XIX - Vocational Assessment Report

Form XX - Vocational Evaluation Staffing Report

Form XXI - Vocational Assessment Report

ASSESSMENT EVALUATION

To be completed by the individual after the vocational assessment

Please ANSWER THE FOLLOWING QUESTIONS. This information is used to improve the vocational assessment services.

	Needs Work	Fair	Good	NA
1. Did you understand the purpose of your vocational assessment?				
2. How helpful was the vocational assessment to your career planning?				
3. Were you made to feel comfortable and relaxed?				
4. Were the directions given to you, clear?				
5. Did you understand the information gathered during your vocational assessment?				
6. What is your overall rating of your vocational assessment experience?				

Comments and Suggestions

ASSESSMENT SUMMARY SHEET

Name_____ Date:

CONTENT AREAS	ASSESSMENT METHOD	RESULTS	DATE	PERFORMANCE High Low	PRIORITY High Low
I. Interest					
II. General Educational Development					
III. Physical, Emotional Social Tolerances					
IV. Independence					
V. Vocational & Abilities					

Vocational Assessment Summary

List the names or types of assessment tools used under each category and results from them.

ACADEMIC ASSESSMENTS:

WORK SAMPLES:

EXPLORATORY EXPERIENCES:

LEARNING STYLES QUESTIONNAIRES:

Comments: _____

_____

_____

_____

VOCATIONAL ASSESSMENT REPORT

Name: _____ Date: _____

School: _____ DOB _____

Evaluator: _____ Grade _____

Referral Source: _____

Background Information:

Tests: Administered:

Behavioral Observations:

July, 1985

Results and Interpretation:

Summary and Recommendations:

Suggested Vocational Objectives:

July, 1985

SAMPLE FORM XX

VOCATIONAL EVALUATION

STAFFING REPORT

NAME: _____ DATE: _____

PRIMARY PROGRAM TEACHER: _____

EVALUATOR _____

Interest and Goals (expressed and tested): | Interview Comments:

High Areas of Performance (occupational categories):

Vocational Assets | Vocational Limitations:

Special Considerations:

RECOMMENDATIONS: Immediate | Long Term

Students Reaction or Comments:

_____
Evaluator

July, 1985

SAMPLE FORM XXI

VOCATIONAL ASSESSMENT REPORT

NAME: _____ Date _____

SCHOOL: _____ QUARTER: ____ GRADE: ____

SUMMARY AND RECOMMENDATIONS:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

SUMMARY OF WORK HABITS AND BEHAVIOR:

_____

_____

_____

_____

_____

_____

SUGGESTED GOALS AND OBJECTIVES:

_____

_____

_____

_____

Developed by Jane Paulson and Susan McAlonan Aurora Public Schools July, 1985

STUDENT PROFILE

0 = SKILL NOT ASSESSED

1 = HIGH PROFICIENCY, CAN DO INDEPENDENTLY

2 = AVERAGE PROFICIENCY, MAY NEED ASSISTANCE

3 = LOW PROFICIENCY, HAS NOT MASTERED SKILL

PHYSICAL/MOTOR SKILLS	1	2	3	0	Comments
GROSS MOTOR					
FINE MOTOR					
MOBILITY					
USE OF LOWER LIMBS					
USE OF UPPER LIMBS					
MULTI-LIMB COORDINATION					
BILATERAL HAND/ARM COORD.					
EYE-HAND COORDINATION					
MANUAL DEXTERITY					
STAMINA					
STEADINESS					
STRENGTH					
USE OF SMALL TOOLS					
USE OF LARGE TOOLS					
PERCEPTUAL SKILLS					
DISCRIMINATES COLOR					
DISCRIMINATES SMALL DIFFERENCES					
ATTENTIVE TO DETAIL					
SPATIAL PERCEPTION					
DEPTH PERCEPTION					
TOUCH DISCRIMINATION (SIZE, SHAPE, TEXTURE)					

Developed by Susan McAlonan and Jane Paulsen
Aurora Public Schools, July, 1985

COGNITIVE SKILLS	1	2	3	0	COMMENTS
MEMORY					
FOLLOWS WRITTEN DIRECTIONS					
FOLLOWS VERBAL DIRECTIONS					
FOLLOWS MULTI-STEPPED DIRECTIONS					
UNDERSTANDS A DEMONSTRATION					
TRANSFERS KNOWLEDGE TO NEW TASKS					
ORGANIZATION					
PLANS USE OF TIME					
MULTIPLE OPERATIONS SIMULTANEOUSLY					
INITIATES CHANGE					
RECOGNIZES WHEN CHANGE IS NEEDED					
SUSTAINS CONCENTRATION					
DEALS WITH CONCRETE IDEAS					
DEALS WITH ABSTRACT IDEAS					
MECHANICAL APTITUDE					
ACADEMIC SKILLS					
TELLS TIME					
MEASURES WITH A RULER					
TO 1 INCH					
TO 1/2 INCH					
TO 1/8 INCH					
TO 1/16 INCH					
USE OF COMMON FRACTIONS					
VOLUME MEASUREMENT					
ADDITION					
SUBTRACTION					
MULTIPLICATION					
DIVISION					
MAKING CHANGE					

SAMPLE FORM XXI

	1	2	3	0	Comments
COMMUNICATES IN WRITING					
SHORT ANSWERS AND SENTENCES					
COMPLETE PARAGRAPH					
2 OR MORE PAGE REPORT					
COMMUNICATES ORALLY					
ANSWERING QUESTIONS					
INITIATE AND HAVE CONVERSATION					
DEAL WITH TECHNICAL VOCABULARY					
COMPLETES FORMS					
USES TELEPHONE					
SOCIAL/PERSONAL SKILLS					
PEER ACCEPTANCE					
RESPONDS APPROPRIATELY IN SOCIAL INTERACTION					
RESPECT FOR OTHERS RIGHTS					
RESPECT FOR OTHERS FEELINGS					
WORKS WELL IN A GROUP					
WORKS WELL ALONE					
SELF CONCEPT					
ACCEPTS LIMITATIONS OF ABILITIES					
EVALUATES OWN WORK REALISTICALLY					
RESPONSIBILITY FOR OWN BEHAVIOR					
ACCEPTS CRITICISM					
ABILITY TO COPE WITH PRESSURE AND CHANGE					
ABILITY TO CONTROL EMOTIONS					
ENTHUSIASM/INTEREST					
USES GOOD JUDGMENT					
USE OF FREE TIME					
ALERTNESS					

WORK HABITS/BEHAVIOR	1	2	3	0	Comments
RESPECT FOR AUTHORITY					
RESPECT FOR RULES/REGULATIONS					
CARE OF TOOLS/EQUIPMENT					
WORKS SAFELY					
PUNCTUAL					
ATTENDANCE					
DEPENDABLE/RELIABLE					
WORKS INDEPENDENTLY					
COMPLETES TASKS					
SHOWS INITIATIVE					
TAKES PRIDE IN WORK					
SHOWS POSITIVE ATTITUDE TOWARD WORK					
SEEKS HELP WHEN NEEDED					
ORGANIZES WORK					
QUALITY OF WORK					
QUANTITY OF WORK					
CONSISTENCY OF WORK					
CLEANS UP WORK AREA					

ADDITIONAL COMMENTS

Resources

RESOURCES

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AURORA PUBLIC SCHOOLS - DEPARTMENT OF SPECIAL EDUCATION

INDIVIDUAL EDUCATIONAL PROGRAM PLAN - THIS IS AN EDUCATIONAL PLAN AND NOT A CONTRACTUAL AGREEMENT

[ ] Initial IEP [ ] Interim IEP [ ] Continuing IEP IEP Date: _____ Annual Review Date: _____

Student Name: _____ D.O.B. _____ Age _____ School _____ Grade _____

CURRENT LEVELS OF EDUCATIONAL FUNCTIONING: (121a. 346[a])

Achievement Test Name _____

	Pre-test Date _____		Post-test Date _____	
	Grade Score	Age %ile	Grade Score	Age %ile
Reading Rec.				
Reading Comp.				
Math				
Written Lang.				
Other				

Handicap: _____

Time to be spent in regular education _____%

Date Services to begin _____. Estimated Duration in months _____.

IEP COMMITTEE	Approval Signatures	Date
Teacher/Counselor		
Sp.Ed. Teacher		
Parent		
Bldg.Adm./Designee		
Sp.Ed.Dir./Designee		
Student		

Statement regarding educational functioning: _____

PHYSICAL EDUCATION: REGULAR _____ DEVELOPMENTAL _____ ADAPTED _____

SPECIFIC SPECIAL EDUCATION RELATED SERVICES TO BE PROVIDED: _____

PREVOCATIONAL OR VOCATIONAL INSTRUCTIONAL GOALS: _____

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Page ___ of ___ pages

(SE Form #10 1/85)

AURORA PUBLIC SCHOOLS - DEPARTMENT OF SPECIAL EDUCATION

INDIVIDUAL EDUCATIONAL PROGRAM

Annual Prioritized Goals - Short Term Objectives - Characteristics of Service

Student_____ D.O.B._____ School_____ Grade_____ School Year_____

Goal: (Measurable)_____

Expected Change:_____ As Measured by:_____

Short Term Objective (Nature)	Size of Instr.Group (Scope)	Times Per Week (Intensity)	Date to Start	Date Com-pleted	EVALUATION (Progress)	Provider

Goal: (Measurable)_____

Expected Change:_____ As Measured by:_____

Short Term Objective (Nature)	Size of Instr. Group (Scope)	Times Per Week (Intensity)	Date to Start	Date Com-pleted	EVALUATION (Progress)	Provider

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Jeffco Employment
Training Services

EMPLOYABILITY DEVELOPMENT PLAN

NAME _____ TELEPHONE NUMBER _____

Second Contact Source:
Name _____
Phone _____
Address _____

I. Assessment Information

a. Readiness for Vocational Decision Making and Planning

	Severe Barrier	Moderate Barrier	Asset	COMMENTS
1. Job Market Information				
2. Vocational Development				
3. Current Life Situation				
4. Other				

b. Assessment of Present Employability

	Severe Barrier	Moderate Barrier	Asset	COMMENTS
1. Basic Education				
2. Vocational Training				
3. Job Skills				
4. Work History/Habits				
5. Abilities				
6. Self-Esteem				
7. Social/Family Situation				
8. Physical Health/ Limitations				
9. Financial				
10. Transportation				
11. Day Care				
12. Age, Race, Sex				
13. Other				
14. Other				

II. Counseling Plan

ACTIVITY	PROVIDER	PLANNED DATES

III. Results from Counseling Plan, i.e., test results, vocational exploration, etc.

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IV. Goals

a. Employment Goals - Short Range and Within Time of Involvement in Jeffco Employment and Training Services.

b. Career Goals - May or may not be involved time with Jeffco Employment and Training Services.

V. Job Market Information - Employment Opportunities for Goals stated in IV.a.

VI. Vocational Plan

ACTIVITY	PROVIDER	DATES PROJECTED	DATE STARTED	COMPLETED? (DATE)	ESTIMATED COST
Job Search Method					

VII. Supportive Services

SERVICE	PROVIDER	DATES	ESTIMATED COST

The Jeffco Employment and Training Services Staff Person and Client agree to carry out this Employability Development Plan until unsubsidized employment is achieved or until the plan is agreed to be changed.

_____ Client (Received copy of plan) _____ Date

_____ Jeffco Employment & Training Services Staff _____ Date

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INDIVIDUALIZED WRITTEN VOCATIONAL PLAN

PLEASE ATTACH THIS PLAN TO THE SPECIAL EDUCATION IEP WHEN EVER THERE IS TO BE A VOCATIONAL COMPONENT.

Name_____ S.S.#_____

General Vocational Goal_____

To be completed by Rehabilitation as applicable.

Need for Extended Evaluation: Yes___ No___

If yes, please give reason(s) for the necessity of Extended Evaluation and other Rehabilitation Services.

_____

_____

_____

Long term goals: _____

_____

_____

_____

_____

SHORT TERM VOCATIONAL OBJECTIVES

(Training Plan)

Identify specific vocational skills or tasks and the task related instructions to be developed. The following skills or tasks are to be considered part of a progressive vocational plan and does not include instruction already provided and it may omit certain unforeseen continuing, developmental skills to be taught.

DETAILED VOCATIONAL SKILLS OR TASKS	DATE BEGIN	CRITERIA FOR ATTAINMENT	DATE COMP.	TASK-RELATED INSTRUCTION	DATE BEGIN	CRITERIA FOR ATTAINMENT	DATE COMP.

(ATTACH ADDITIONAL SHEETS, IF NECESSARY)

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SUMMARY OF PLANNED SERVICES

Following is a list of needed services. It does not include services already provided; only those services necessary to complete the vocational component. It may omit certain necessary unforeseen services.

	SERVICE	PROVIDED BY	PERSON RESPONSIBLE	FROM/TO (EST.)
1.				
2.				
3.				
4.				

(ATTACH ADDITIONAL SHEETS, IF NECESSARY)

REVIEW AND EVALUATION OF PROGRESS

Procedure: Periodic review/evaluation of progress toward vocational objectives and goals are made to determine progress. (For Extended Evaluation, a minimum of one review each 90 days is required.) For I.E.P. evaluation, the Plan must be reviewed annually.

DATE/SCHEDULE	SUMMARY OF COMMENTS

SUMMARY OF THE VIEWS REGARDING GOALS, OBJECTIVES AND SERVICES PLANNED

(To be completed by student/client and/or parent/guardian)

Signature As Applicable

Student _____ Date _____

ATTACH ADDITIONAL COMMENTS, IF NECESSARY

Parent/Guardian _____ Date _____

COLORADO RESOURCES

SBCCOE - State Board for Community and Occupational Education

Services: Supervises and administers occupational education programs, approves allocationa and distribution of state and federal Voc Ed funds. Can provide informationon established vocational assessment centers.

Cost: N/A

Contact: Special Programs
1313 Sherman
Denver, CO 80203
866-2335

CDE - Colorado Department of Education

Services: Coordinates special education services in educational institutions through-out the state. Will provide information on available vocational assessment.

Cost N/A

Contact: Special Education & Career/Vocational Education
303 W. Colfax
Denver, CO 80204
573-3232

CDR - Colorado Division of Rehabilitation

Services: A variety of services are available to qualified clients - from vocational training in the schools to prosthetic devices. Work Experience Study placements in the community are available which are coordinated with the school district, SBCCDE, CDE, and CDR.

Cost: No charge for physical exams, guidance, training, placement. Cost of all other services in proportion to the individual's ability to pay.

Contact: 524 Social Services Building
1575 Sherman St.
Denver, CO 80203
866-2285

UNC - University of Northern Colorado

Services: Provides teacher education courses in the areas of vocational education and rehabilitation. Maintains a Vocational Evaluation Clinic. Can provide informationa about established assessment centers.

Cost: N/A

Contact: Vocational Teacher Education
McKee
Greeley, CO 80639
351-2939

CSU - Colorado State University

Services: Provides teacher education programs in the area of vocational education.

Cost: N/A

Contact: Department of Vocational Education
Humanities Bldg. Rm 224
Fort Collins, CO 80523
491-6835

Information and Referral Services

Services: Provide information on available community based organizations for special needs.

Cost: N/A

Contact: Check your phone book for local referral agencies

JTPA - Job Training and Partnership Act, Colorado Service Delivery Areas/Private Industry Councils

Services: Assessment, job training, job placement for qualifying participants. Criteria for services includes economic disadvantage or other significant barrier to employment.

Cost: None to participants

Contact: Governor's Job Training Office
Denver, CO
866-3165

COCIS - Colorado Career Information System

Services: Statewide clearinghouse of current occupational and educational information, including training programs; career exploration; employer profiles.

Cost: Call for information

Contact: 830 S. Lincoln
Longmont, CO 80501
666-9107

ACE - An audiovisual system of 250 occupations in the COCIS program. Now referred to as "interactive video for career information", oit will probably be ready for marketing in Summer, 1986.

Contact: Same as COCIS

Colorado Department of Labor and Employment Job Services Offices (Statewide)

Services: GATB testing, typing tests, job placement, referrals to supportive agencies, employment counseling, maintain special programs including youth and handicapped specialists. Local offices can supply information and assistance in the areas of displaced homemakers, dislocated workers, veterans, older workers, Targeted Job Tax Credits and labor market information.

Contact: Colorado Department of Labor and Employment
Denver, CO
866-6000 or consult your telephone directory for your local Job Service Office

Vocational Education Programs

In 1983-1984 therre were a total of 385 comprehensive highschools, community colleges, area vocational schools and other entities which offer vocational education. For more information about programs available for you, cost and criteria, contact the State Board for Community Colleges and Occupational Education in Denver, 866-2335.

READING ASSESSMENT

The following is taken from the Assessment of Basic Vocation-Related Skills: Health Occupations, by Nancy Hartley, Karen Otazo and Connie Cline. It is available from the University of Northern Colorado Vocational Teacher Education Department, McKee 4th floor, Greeley, CO 80631.

HEALTH OCCUPATIONS
READING SKILLS I

READ THIS PARAGRAPH:

Normally, a well baby eats, sleeps, plays and cries. If an infant suddenly refuses to eat, appears IRRITABLE, DROWSY or restless, or cries as if in pain, it may only be too much excitement, or it may be the beginning of an illness. If temperature EXCEEDS 101°F., diarrhea or vomiting begins, or a RASH or a runny nose develops, the baby should be seen by a physician. If the infant should cry sharply, become stiff or seem unable to move a part of their body or begin to CONVULSE, the infant will need immediate medical attention.

ANSWER THE QUESTIONS ON THE NEXT PAGE

Mrs. Mavis C. Sparks, Exploring Careers in Health Occupations, Curriculum Development Center, Lexington, Kentucky, September, 1975.

(Paragraph revised to reflect sex fair language.)

NAME _____

HEALTH OCCUPATIONS
READING SKILLS I

DIRECTIONS TO STUDENT:

Please tell what the following words mean as they are used in the previous paragraph.

1. IRRITABLE _____

2. DROWSY _____

3. EXCEEDS _____

4. RASH _____

5. CONVULSE _____

VOCABULARY _____ (0-5)

6. What is this paragraph about? _____

MAIN IDEA _____ (1-5)

7. Name two reasons why a child should see a doctor.
   (1) _____
   (2) _____

DETAILS _____ (1-5)

8. Why is it so important to go to a doctor right away? _____

INFERENCE _____ (1-5)

TOTAL SCORE _____

HEALTH OCCUPATIONS
READING SKILLS II

Some of you will see information on a patient's chart. You may have reason to use the chart or to see it by accident. Unless your work REQUIRES you to make NOTATIONS on the chart or to use it in order to give care to the patient, do not read it or even take it from the CHART RACK. The chart is a legal document, belonging to the hospital, and the material in it is known as "PRIVILEGED INFORMATION" --that is, it is very private and is meant only for those people who need it to care for the patient. PRIVACY of everything surrounding the patient is his or her right.

ANSWER THE QUESTIONS ON THE NEXT PAGE

Mrs. Mavis C. Sparks, Exploring Careers in Health Occupations, Curriculum Development Center, Lexington, Kentucky, September, 1975.

NAME_____

HEALTH OCCUPATIONS
READING SKILLS II

DIRECTIONS TO STUDENT:
Please tell what the following words mean as they are used in the previous paragraph.

1. REQUIRES_____

2. NOTATIONS_____

3. CHART RACK_____

4. "PRIVILEGED INFORMATION"_____

5. PRIVACY_____

VOCABULARY_____ (0-5)

6. What is this paragraph about?_____

MAIN IDEA_____ (1-5)

7. Name two times you will have to use the chart.
(1)_____
(2)_____

DETAILS_____ (1-5)

8. Why is privacy so important for the patient?_____

INFERENCE_____ (1-5)

TOTAL SCORE_____

The following information about the Dictionary of Occupational Titles and Labor Market Information has been taken from the Consortium for Placement: Improved Career Decision Making Program Training Manual.

This manual was prepared through the National RRCEP Consortium (Regional Rehabilitation Continuing Education Programs) with funding support from NOICC (National Occupational Information Coordinating Committee) and RSA (Rehabilitation Services Administration) and can be ordered from the:

National Clearing House of Rehabilitation Training Materials
115 Old USDA Building
Oklahoma State University
Stillwater, OK 74078.

DICTIONARY OF OCCUPATIONAL TITLES (DOT), 4TH EDITION

AGENCY: U.S. Department of Labor Employment and Training Administration

FREQUENCY: 1977, most recent

COVERAGE: Nationally based publications

MAJOR CONTENTS:

In the Dictionary of Occupational Titles, approximately 20,000 occupations have been identified, defined, and classified in a systematic way. Each definition includes a nine-digit code, the primary industry in which the occupation is found, and alternative names by which the job is known as well as a description which lists the most common job tasks. The most recent edition (fourth) also attempted to reduce the quantity of technical language present in past editions and included a glossary for technical terms which could not be eliminated. Additionally, the latest edition grouped occupations with similar job duties together, making it easier to determine what occupations are most similar in different industries. This is especially helpful in occupational choice and job search when clients must consider transferring their occupational skills to new industries.

In addition to its reductive system for locating occupational definitions, the DOT also includes at the back of the volume, an alphabetical listing of occupational titles and a listing of occupational titles by industry.

Finally, it is important to stress that the coding system within the DOT is commonly used as a cross-referencing device for relating various kinds of occupational information. Thus, DOT codes are listed with occupations in the Occupational Outlook Handbook, Guide for Occupational Exploration, and the Standard Occupational Classification system, allowing counselors to accumulate information on the same occupation while using different information resources. Additionally, DOT codes are used by a number of standardized assessment instruments for aptitudes (e.g., General Aptitude Test Battery) and Interests (e.g., Strong-Campbell Interest Inventory).

Content of the DOT includes job activities, related occupations, industry, preparation for work (available in supplement only), and some information on job activities (available in supplement only).

The Dictionary of Occupational Titles

The 1977 edition of the DOT contains approximately 20,000 occupational titles and definitions that are grouped in such a way as to organize the millions of jobs in the U.S. economy according to similarities in job performance in work establishments all across the country.

There are six basic components in an occupational definitions:

1) the nine-digit occupational code number
2) the occupational title
3) the industry description
4) alternate titles
5) the body of the definition
6) undefined related titles (if any)

The nine-digit DOT code provides a unique identifier for each of the nearly 20,000 occupations in the DOT. Each digit serves a specific function.

The first three digits identify a particular occupational group. All occupations are clustered into one of nine broad categories, (first digit), 82 specific divisions (first two digits), and 559 small homogeneous groups (the first three digits). The nine primary occupational categories include the following:

0/1 Professional, Technical, and Managerial Occupations
2 Clerical and Sales Occupations
3 Service Occupations
4 Agricultural, Fishery, and Forestry Occupations
5 Processing Occupations
6 Machine Trades Occupations
7 Benchwork Occupations
8 Structural Work Occupations
9 Miscellaneous Occupations

The middle three digits of the DOT code identify the "worker function" ratings of the tasks performed. The fourth, fifth, and sixth digits of the code number are based on the following findings of the U.S. Employment and Training Administration:

1. Every job requires the worker to function in some degree in relation to Data, People, and Things.

2. The relationships specific to Data, People and Things can be arranged in each case from the simple to the complex in a hierarchy so that, generally, each successive function can include the simpler ones and exclude the more complex functions. (Since each of the relationships to people represents a wide range of complexity, resulting in considerable overlap among occupations, their arrangement is somewhat arbitrary and can be considered a hierarchy only in the most general sense).
3. It is possible to express a job's relationship of Data, People,and Things by identifying the highest appropriate function in each hierarchy to which the job requires the worker to have a significant relationship.
4. Together, these three digits of the code number can express the total level of complexity at which the job requires the worker to function.

The three middle digits express the worker's relation to each of these three groups:

0 Synthesizing	0 Mentoring	0 Setting Up
1 Coordinating	1 Negotiating	1 Precision
2 Analyzing	2 Instructing	2 Operating-Controlling
3 Compiling	3 Supervising	3 Driving-Operating
4 Computing	4 Diverting	4 Manipulating
5 Copying	5 Persuading	5 Tending
6 Comparing	6 Speaking-Signaling	6 Feeding-Offbearing
	7 Serving	7 Handling
	8 Taking Instructions-Helping	

The Data, People, and Things hierarchy levels are arranged in what is meant to be a descending scale of functional complexity. The lower numbers represent more complex or higher skill levels. For example, with this numbering system, it may be inferred that an occupation having the middle three digits of .261 is of a higher skill level than a job coded .685. This type of inference can be useful in comparing different jobs, but it should only be applied if the jobs are in the same occupational group, i.e., have the same first three digits. In addition, the Data, People, and Things levels are descriptive concepts rather than quantitative measures and, as such, do not always represent the fullest expression of job complexity. They describe what the worker does on the job. Sometimes what workers do is an adequate discriminator of performance level; sometimes it is not.

In the example on the next page, showing the fourth edition code for Construction Equipment Mechanic (construction), the numbers indicate that the worker's relationship to Data is at hierarchy level 2, which is described as "Analyzing"; the relationship to People is at level 6, which is described as "Speaking-signaling"; and the relationship to Things is at level 1 for "Precision Working." The numbers provide a description of the worker's functional activities in this particular occupation. The worker's activities involved analyzing data and precision work with things. Contacts with people are of minor importance involving speaking and signaling. All occupations can be expressed in this way.

CONSTRUCTION EQUIPMENT MECHANIC (CONSTR.)

1ST 3 DIGITS

OCCUPATIONAL GROUP ARRANGEMENT

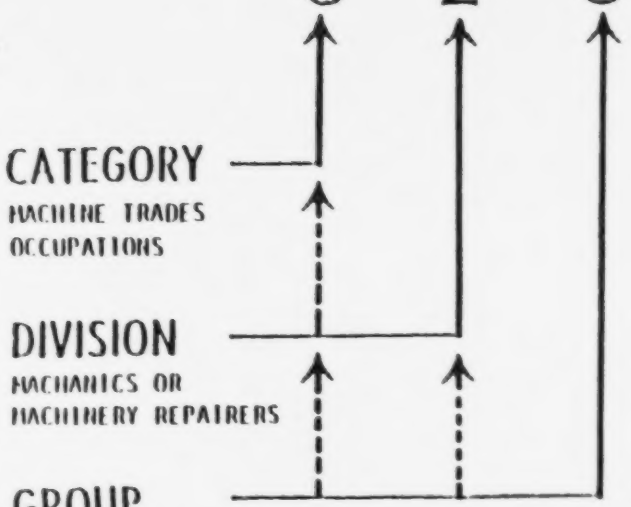
2ND 3 DIGITS

WORKER FUNCTIONS (DATA, PEOPLE AND THINGS)

LAST 3 DIGITS

SERIAL # (ARRANGED BY # IN ALPHABETICAL ORDER)

6 2 0 . 2 6 1 - 0 2 2



CATEGORY
MACHINE TRADES OCCUPATIONS

DIVISION
MACHANICS OR MACHINERY REPAIRERS

GROUP
MOTORIZED VEHICLE AND ENGINEERING EQUIPMENT MECHANICS AND REPAIRERS

DATA 2 ANALYZING

PEOPLE 6 SPEAKING-SIGNALING

THINGS 1 PRECISION WORKING

UNIQUE NUMERICAL CODE OF A SPECIFIC BASE TITLE.

The assignment of the 2nd three digit, or one DOT code to any given job is made, regardless of the occupational group involved. The functional code in the above example of .261 may apply to many occupations in many different areas of technology besides the Occupational Group 620. It must correctly indicates what the worker does in the various occupational groups.

It is in the combination of the first three digits with the second three digits that the full occupational meaning can be realized -- the second three digits expressing what the worker does and the first specifying the occupational area in which the work is being done. The resulting combination provides a thumbnail sketch of the occupation.

The third group of three digits, positions 7-8-9, provides a unique suffix code for each occupational title defined in the DOT. Where a six-digit code number is applied to only one job title, the suffix code is 010. Occupations that have identical six-digit DOT codes begin with the 010 suffix code and progress in additive steps of four, such as 014, 018, 022. In the fourth edition DOT, these steps are usually assigned in alphabetical order of occupational titles.

The combination of these three groups of digits results in a unique nine-digit code which serves to define the given occupation and differentiates it from all others.

Each occupational title defined in the fourth edition DOT has at least one industry designation and is coded accordingly. The industry designation often differentiates between two or more occupations with identical titles but different duties. Because of

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this, it is an integral part of any title. The industry designation usually tells one or more things about an occupation such as its location (hotel and restaurant, machine shop); the types of duties associated with it (such as education, or cleaning, dyeing and pressing); the products manufactured (such as textile or optical goods); the processes used (such as electroplating or petroleum refining); or the raw materials used (metal alloys, stonework).

LABOR MARKET INFORMATION CHECKLIST

1. _____ DICTIONARY OF OCCUPATIONAL TITLES (DOT), Fourth edition ... Provides detailed descriptions for 20,000 occupations including related job titles and job tasks. U.S. DOL/USES. Available through the GPO. STOCK NO. 029-013-00079-3 — $ 23.00

2. _____ SELECTED CHARACTERISTICS OF OCCUPATIONS DEFINED IN THE DOT ... Provides supplemental information concerning physical demands, environmental conditions and restrictions, and training time for DOT defined occupations. U.S. DOL/USES. Available through the GPO. STOCK NO. 1980 0-301-764 — $ 11.50

3. _____ STANDARD OCCUPATIONAL CLASSIFICATION MANUAL (SOC) 1980 ... Provides a coding system for classifying occupational information by job duties with groups to identify related occupational clusters. U.S. Department of Commerce. Available through the GPO. STOCK NO 1980 0-332-946 — $ 9.00

4. _____ STANDARD INDUSTRIAL CLASSIFICATION MANUAL (SIC) 1970 ... Provides a coding system for classifying, collecting, and disseminating data by industry grouping. Office of Management and Budget (OMB). Available through the GPO. STOCK NO. 1981 0-359-712:QL 3 — $ 15.00

5. _____ OCCUPATIONAL OUTLOOK HANDBOOK (OOH) ... Contains detailed information for 250 selected occupations including narratives on the nature of work, training and qualifications, job outlook and earnings. U.S. DOL/Bureau of Labor Statistics. Available through the GPO. Bulletin #2200 — $ 12.00 (Hardcover) $ 9.00 (Paperback)

6. _____ EXPLORING CAREERS ... Career education resource providing career and world-of-work awareness through stories, basic job facts and career games. U.S. DOL/Bureau of Labor Statistics. Available through the GPO. Bulletin #2001-(1-15) — $ 11.00 per set

7. _____ GUIDE FOR OCCUPATIONAL EXPLORATION (GOE) ... Provides grouping of occupations based on interest factors and also provides world-of-work and career awareness through evaluative questions. U.S. DOL/USES. — Available through American Guideance Service, Circle Pines Minnesota 55014

8. _____ U.S. INDUSTRIAL OUTLOOK HANDBOOK ... Provides narrative discussions and statistics on current and projected developments for over 200 selected industries. U.S. Department of Commerce, Bureau of Industrial Economics. Available through the GPO. STOCK NO. 1982 0-364-749:OL 3 — $ 10.00

9. _____ OCCUPATIONAL OUTLOOK QUARTERLY ... Periodical designed to keep counselors and education planners abreast of current occupational and employment developments. U.S. DOL/Bureau of Labor Statistics. Available through the GPO. — $8.00 per year

10. _____ A COUNSELORS GUIDE TO OCCUPATIONAL INFORMATION Provides a bibliography of occupational information and career sources available through the Federal Government. U.S. DOL/Bureau of Labor Statistics. Available though the GPO. Bulletin #2042 — Free of charge

11. _____ OCCUPATIONAL PROJECTIONS AND TRAINING DATA ... Provides information on occupational supply and demand conditions and training and qualifications for over 200 selected occupations. U.S. DOL/Bureau of Labor Statistics. Available through the GPO. Bulletin #2052 — Free of charge

12. _____ THE NATIONAL INDUSTRY-OCCUPATION EMPLOYMENT MATRIX (Volumes I and II) ... Provides a census-based matrix for determining occupational staffing patterns by industry (VOL. I.), and an inverted matrix for determining industry distribution by occupation. U.S. DOL/Bureau of Labor Statistics. Available through the GPO. Bulletin #2086 — $ 17.00 per set

Mailing Address: Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402

Note: All Bureau of Labor Statistics documents are also available at BLS Regional Offices

WELDING

Vocational Assessment Packet

Jane Paulson
Artist: Roxanne McBurnett

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OVERVIEW

Welding is included in most trades where metals are used. It has become the major way of joining and repairing metal products. In this packet you will explore two major types of welding. Oxyacetylene welding uses a mixture of oxygen and acetylene gases to create a flame. The heat from the flame melts the metal so it can be joined together. Arc welding uses electric current for heat.

Employment is available in almost any industry that interests you. As a welder you could help build ships, automobiles, or airplanes. Work could be on buildings, railroads, bridges or products such as television sets and refrigerators. You may find yourself at the bottom of a mine or the top of a high rise building. Many welders work in a welding shop. The list of job opportunities is almost endless. Because of the demand, you may have the chance to work almost anywhere in almost any industry.

Welding is a valuable skill. More and more industries are demanding welders and wages are good. Usually welders are classified as skilled or semi-skilled. Learning the skills needed can range from a few months of on-the-job training to several

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years of welding classes. Training depends on your skills and the type of job you want. You may enter the field as a welder or a welding machine operator. In either of these jobs you would have semi-skilled duties such as repetitive production welding. In this type of welding you may earn about $5.00 per hour. Skilled people in either arc or gas welding can make up to $8.00 per hour. If you have skills in both arc and gas you can become a combination welder. These workers are in demand because of their many skills and therefore make more money. There are other welding jobs which require even more skills and earn higher salaries. For example, a welder fitter has to know how to read blueprints as well as have good math skills. As you can see, welding offers you a choice of different jobs, whatever your interests and skill might be.

As in any job you need certain skills before you begin training. If you have these skills and an interest in welding, this might be the field for you. To be a welder, you need to be in good physical condition. This includes being able to stand, bend and stoop as well as tolerate heat. A welder needs to have good vision, eye-hand coordination and a steady hand. If you want a job as a skilled welder you need to be able to visualize or 'see' what a

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project will look like when you are finished. Most important you need to enjoy working with your hands and have the desire to become a welder.

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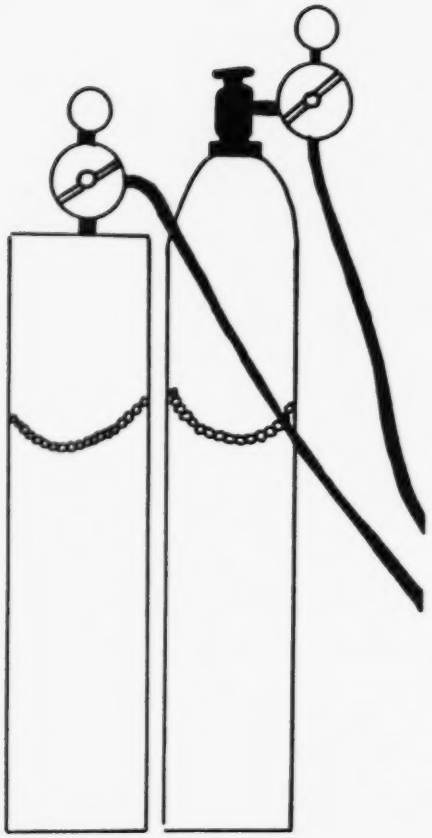
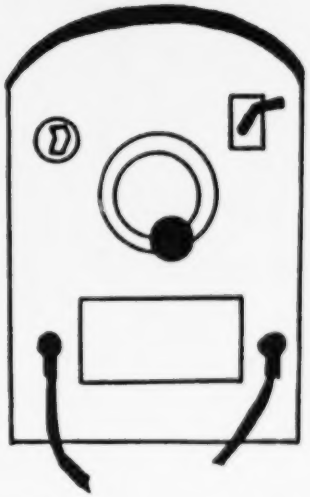
TOOLS

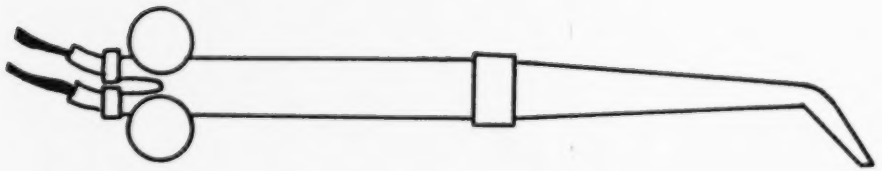


oxyacetylene welding equipment

electrode holder



arc welding equipment



oxyacetylene welding torch

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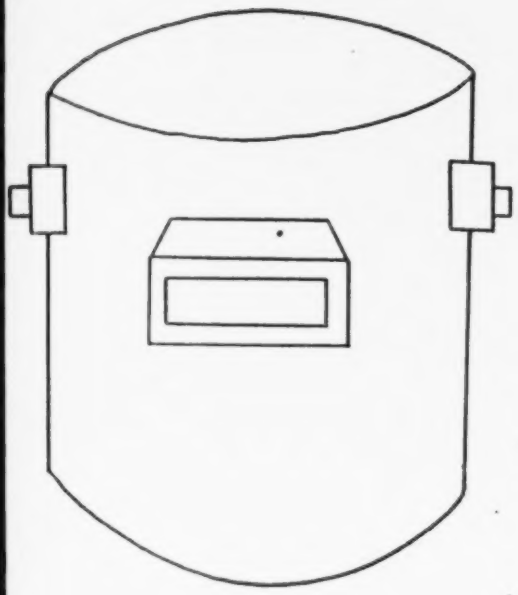
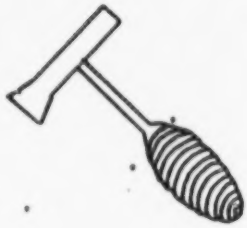
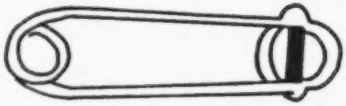


welding hood

safety glasses



chipping hammer



lighter or striker

welding glove

TERMS

Acetylene	A gas used in welding
Arc	Curved stream of sparks formed as current jumps between electrode and metal plate
Circular motion	Movement that is like a circle
Clamp	Device for holding
Cone	Small blue part of the oxyacetylene flame next to the tip
Curtain	The plastic material surrounding arc equipment to protect the eyes of those not welding
Cylinder	The tanks or containers for holding oxygen and acetylene under pressure
Diameter	Measurement across a circle

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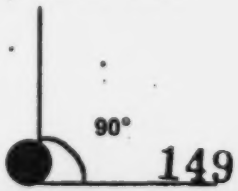
Electrode	Metal rod to be melted and added to an arc weld
Filler rod	The metal rod to be melted and added to an oxyacetylene weld
Flashback	When flame goes back into the torch
Gauge	Dial that shows the amount of pressure
Grounded	Connection of an electrical conductor with the earth
Indicator	Part of arc welding equipment that shows the amount of electricity
Insulated	Protected from electric current
Metal plate	Piece of metal used for welding practices
Ninety degrees	90° 

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Oxyacetylene welding	Heating metal using flames from the combustion of acetylene and oxygen
Oxygen	A gas used in welding
Polarity	Direction of electric current
Puddle	Liquid metal where the heat is supplied
Regulator	Part of the oxyacetylene welding equipment that controls the amount of gas coming from the cylinders
Slag	Non-metal material on arc welds
Striker	The instrument used to light a torch in welding
Thirty-five degrees	35°
Tip	The removable end of the welding torch

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Torch	Part of welding equipment used to mix and control the flow of gases
Valve	Knob which opens and closes the lines
Welding hood	Protective eye and face covering used in welding

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SAFETY RULES

Welding can be dangerous.

Always wear coveralls to protect arms and clothing.

Always wear safety glasses.

Always wear a welding hood when welding.

Always wear gloves if arc welding.

Always wear hard-toed shoes.

Tie back long hair.

Remove jewelry or ties.

Only operate machinery after receiving instruction and being told to do so.

Always turn off equipment before leaving.

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Colors have meaning in the shop.

Green indicates first aid equipment or the 'on' button.

Red shows you 'stop' buttons or switches, flammable liquids and where fire extinguishers are. Find the nearest fire extinguisher so you'll be prepared in case of a fire.

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GAS WELDING

Never use acetylene at a pressure higher than 15 pounds per square inch, at a higher pressure, it will explode.

Never let oil or grease come in contact with the equipment.

Never open tank valves until you check regulator screws.

Always use lighter or striker, not matches when lighting the torch.

Never let flame hit hoses, regulators or cylinders.

Do not hold tip too close to metal, it causes a flash-back.

Always close torch valves when not in use.

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ARC WELDING

Never look at arc without arc welding hood, it will burn your eyes.

Always ground arc welding machine.

Close curtain when arc welding to protect the eyes of others.

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OXYACETYLENE SET UP

1. Put on coveralls, safety glasses and welding hood.

2. Screw a #1 tip on the torch body.

3. Check and make sure the oxygen and acetylene regulator screws are loose.

4. Turn acetylene cylinder valve on the top of the cylinder ¼ to ½ turn.

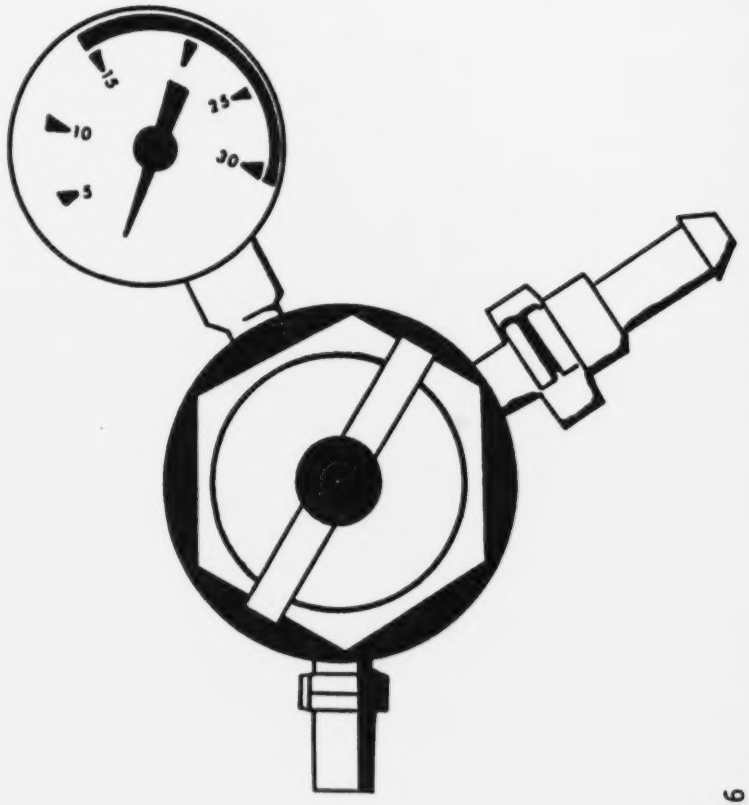
5. Slowly tighten acetylene regulator screw clockwise until the gauge reads 6 pounds per square inch (psi).

6. If acetylene gauge reads above 6 psi:

   a. Open acetylene torch valve

   b. Loosen acetylene regulator screw ½ turn

   c. Close acetylene torch valve



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d. Readjust to 6 psi by tightening acetylene regulator screw

7. Turn oxygen cylinder valve until it is all the way open.

8. Slowly tighten oxygen regulator screw clockwise until the gauge reads 6 psi.

9. If oxygen gauge reads above 6 psi:

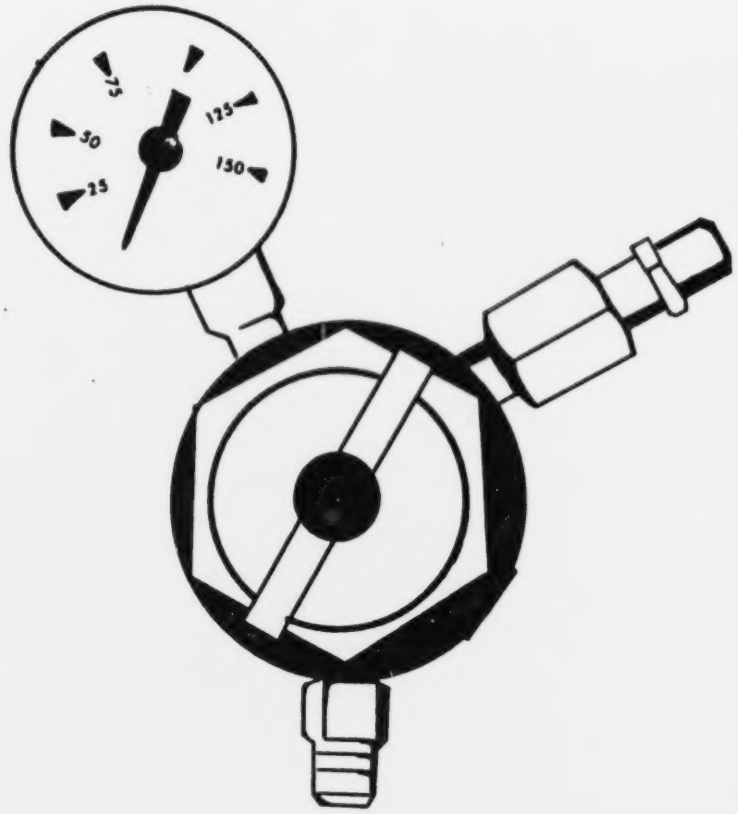
   a. Open oxygen torch valve

   b. Loosen oxygen regulator screw ½ turn

   c. Close oxygen torch valve

   d. Readjust oxygen regulator screw to 6 psi

10. Turn acetylene torch valve no more than ¼ turn. This lets acetylene gas come out the tip.



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11. Hold striker underneath tip, being careful not to have your hand any closer to the tip than you have to for holding the striker. Use striker to light torch.

12. Very slowly adjust acetylene torch valve until the black smoke off the end of the flame disappears. The direction needed to adjust the flame depends on how much the acetylene torch valve was opened before lighting the torch.

13. Lower welding hood, if not already covering face.

14. Very slowly turn oxygen torch valve. This mixes oxygen with the acetylene.

15. Continue adding oxygen by turning oxygen torch valve until the two inside cones meet forming one blue cone about ½ inch from the torch tip.

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OXYACETYLENE SHUT DOWN

1. Close or tighten acetylene torch valve.
2. Close or tighten oxygen torch valve.
3. Close acetylene cylinder valve. Remember it is only turned ¼ to ½ turn.
4. Close oxygen cylinder valve.
5. Open acetylene torch valve to release any gas left in the hoses.
6. Close acetylene torch valve after all gas is released and acetylene gauge shows zero.
7. Open oxygen torch valve to release oxygen in the hoses.
8. Close oxygen torch valve when oxygen regulator shows zero.
9. Loosen acetylene regulator screw.

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10. Loosen oxygen regulator screw.

11. Unscrew tip from torch.

12. Gather hoses and put torch in proper place.

13. Clean up any materials.

14. Put away welding hood and tip.

15. Safety glasses are to be worn until you are out of the shop.

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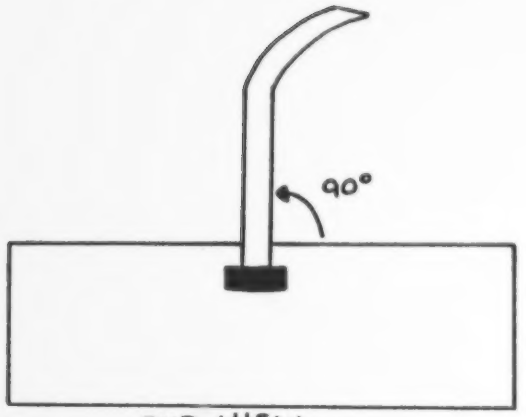
OXYACETYLENE
RUNNING A BEAD

1. Set up oxyacetylene equipment as in activity 1.

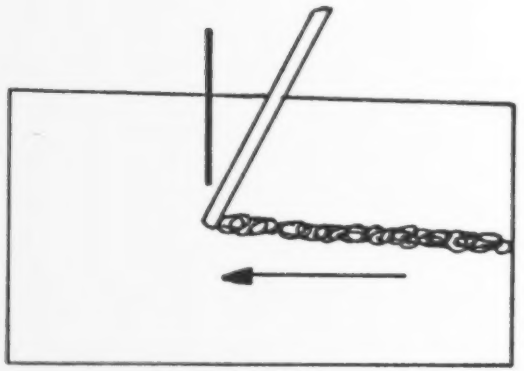
2. After adjusting cones, hold torch so it makes a 90° work angle when looking at it from the end of the metal. 90° is straight up from the metal plate.

3. Keeping the 90° work angle, form a 35° to 40° travel angle. Do this by moving the top of the tip back toward the side of the metal.

4. Hold torch so inner blue cone is ⅛ inch from the surface of the metal plate. If right handed start from right edge of the metal, if left handed begin on the left side.



END VIEW


SIDE VIEW

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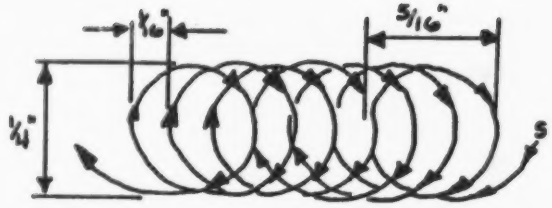
5. The cone will begin to melt the metal As soon as a puddle has formed, slowly start moving the torch across the metal plate. The cone should push the puddle in front of it. Move in a small circular motion.

6. When you get to the other side, cool the metal plate by using the pliers to lift and put into the water.

7. Practice running beads. Try and make your beads look like the picture.



8. Cool after each bead.

9. Shut down equipment following the steps in activity 2.

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OXYACETYLENE USING FILLER ROD

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1. Set up oxyacetylene equipment as in activity 1.

2. Hold filler rod in hand not holding torch. Hold the rod at least a foot away from the end touching the metal plate as it gets hot.

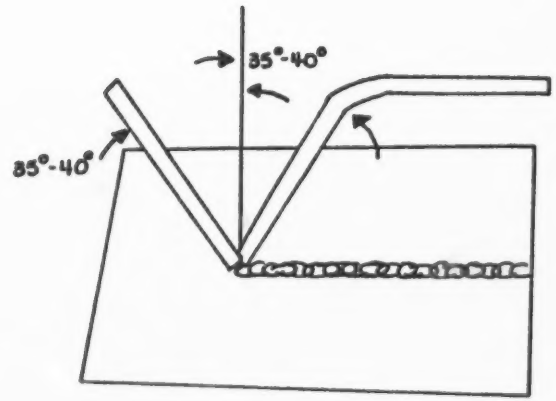
3. Hold filler rod about the same angle as the torch, in the opposite direction.

4. Melt a puddle as in activity 3.

5. Dip the end of the filler rod into the center of this puddle.

6. Don't use the flame to melt the filler rod, keep the flame on the base metal.

7. Continue running a bead as in activity 3, but add filler rod as the circular motions are made.



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ARC SET UP

1. Put the clamp with the metal handle or ground clamp on a metal surface. The metal work table is usually the easiest.

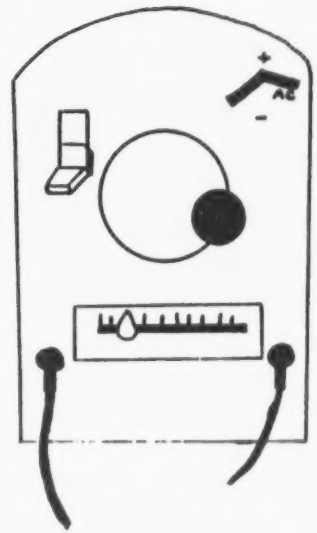
2. Put the metal end of a ⅛ inch diameter 6010 electrode in the other clamp. The insulated clamp is the electrode holder.

3. Set reverse polarity on lever.

4. Adjust amps by turning wheel and watching until indicator reaches 90 amps.

5. Hold electrode holder away from work table to make sure electrode holder is not grounded.

6. Turn on equipment by flipping power switch.



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STRIKING AN ARC

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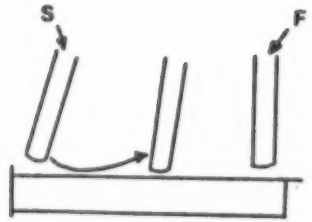
1. Set up equipment as in activity 5.
2. Put metal plate on work table.
3. Lower welding hood and close curtain.
4. Strike an arc by using the electrode like a match and scratching it across the metal plate.
5. As soon as the electrode hits the metal, raise it about ⅛ inch above the plate.
6. If not raised ⅛ inch, the electrode will melt and stick to the metal plate. If this happens, break it loose with a quick twist. If the twist fails to release the electrode, open the electrode clamp and let the electrode out. Break the electrode from the metal and try again.
7. Practice striking an arc.



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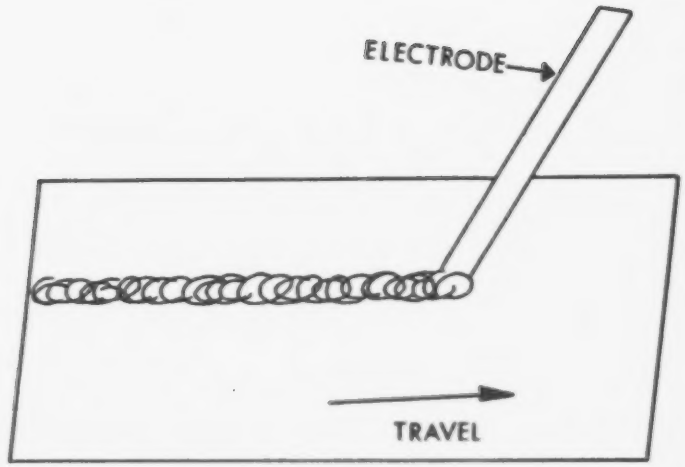
ARC RUNNING A BEAD

1. Set up arc equipment as in activity 5.
2. Lower welding hood and close curtain.
3. Strike arc as in activity 6.
4. Hold electrode ⅛ inch off the metal plate.
5. Position electrode at a slight slant.
6. Move electrode to edge of the plate. (left edge if right handed, right edge if left-handed).
7. Drag electrode across metal plate in a forward, slightly backward and finally a forward motion.
8. If the arc is ⅛ inch and the travel speed across the metal is right, a continuous frying sound will occur.



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9. Flip off the power switch.

10. Carry metal plate with pliers and cool under water.

11. Remove slag with wire brush and hammer.

12. Practice running beads.

13. Flip off power switch when not using the equipment.

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SELF-EVALUATION

	YES	NO	DON'T KNOW
Did the noise in the shop bother you?			
Did the heat bother you?			
Do you mind getting dirty in a job?			
Almost everyone is a little afraid of welding at first, but did you get over that fear enough to enjoy welding?			
Welding is a dangerous job, does that bother you?			
Are you able to lift fairly heavy objects?			
Does the pay scale sound good to you?			
Do you like working with your hands?			
Could you run a straight bead?			
Did sitting or standing for long periods of time bother you?			

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	YES	NO	DON'T KNOW
Were your hands steady in holding the torch or electrode holder?			
Could you remember the steps for setting up the equipment?			
Did you make a good weld?			
Did you like welding?			
Would you like welding as a career?			

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